

ALLIANCE FOR
MINORITY PARTICIPATION

**PHASE III EVALUATION REPORT
YEAR ONE**

September 2011

Dr. Martin V. Bonsangue
California State University, Fullerton
mbonsangue@fullerton.edu

Dr. David E. Drew
The Claremont Graduate University
david.drew@cgu.edu

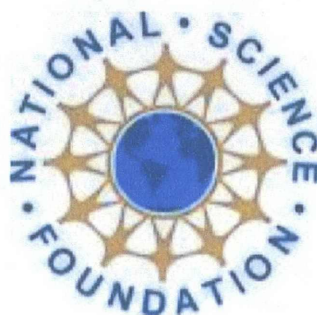


Table of Contents

Executive Summary	3
Introduction.....	4
Ten-Year Update Review Summary.....	4
Phase I Update Results	4
Phase II Update Results.....	5
Discussion.....	6
Environmental Factors.....	7
Phase III Year One Results.....	8
Site Visits.....	10
Texas Southern University	10
University of Houston-Central	11
University of Houston-Downtown	12
Houston Community College District	12
Texas State University	13
San Jacinto College.....	14
Data Collection for Phase III	15
Texas State University HBCU:UP STEP Study	15
Texas State University COST Survey	26
Appendices	33
Appendix 1: LSAMP Activities.....	34
Appendix 2: Texas Southern University Site Visit Presentation and LSAMP Activities Summary..	37
Appendix 3: University of Houston Downtown LSAMP Activities Summary	53
Appendix 4: Texas State University LSAMP Activities Summary.....	60
Appendix 5: San Jacinto College LSAMP Activities Summary	69
Appendix 6: External Evaluator's Brief Bios.....	89
Appendix 7: Evaluation Visit Schedule.....	90

Executive Summary

This report examines results from the first year of Phase III of the H-LSAMP project. Now completing its eleventh year of NSF funding, we view this as a transition year for this Alliance. This report gives a summary of the results from Phase I and Phase II using updated data provided by Executive Director Craig Cassidy. This is followed by a recap of our visits with individual Alliance sites and recommendations for data collection during Phase III.

We note two major observations about the degree productivity trends. First, STEM degree productivity increased dramatically during the first phase (an increase of 93.7 %) and reached a steady state at that point. That is, the Houston alliance essentially doubled minority STEM degree production during Phase I and then demonstrated that these high productivity levels could be sustained in Phase II. Second, STEM degree production has remained consistently high. Implicit in this second observation is the fact that URM degree production has kept pace with increases in enrollments. We reiterate here that during Phase I the H-LSAMP growth was substantially greater than the national trend—roughly six times the national average.

Data from the first year of Phase III (year eleven) showed the following results. Using year ten (2008-09) data as the baseline year, during the first year of Phase III (year 11):

- The number of underrepresented minority students enrolled in STEM majors remained steady with an increase of 6.7 % from 4976 to 5311, and
- The number of STEM degrees awarded to underrepresented minority students remained steady with a slight increase of 1.0 % from 704 to 711.

Thus, the Alliance continued to post strong and consistent aggregate numbers at or slightly above the level following the dramatic growth during Phase I. The report noted some differences in degree production among the individual four-year institutions.

We see this year as being a transition year for the Alliance as it continues to develop its Bridge to the Doctorate Program. The H-LSAMP is a national model of a successful LSAMP and needs to become more intentional about disseminating its work and results. We encourage the Alliance to continue to gather more "hard" data using metrics that are both reflective of the program's impact and accessible to LSAMP leaders. Towards that end we include in this report a survey instrument that we recently developed for the Texas Southern University HBCU:UP STEP program. Based in part on the work of Alexander (Sandy) Astin and the Higher Education Research Institute at UCLA, this survey measures both achievement and attitudinal variables and may help tease out the impact of the program on the college and university STEM culture. The survey could be readily re-designed so as to fit specific needs of the H-LSAMP.

H-LSAMP External Evaluation Report September 2011

INTRODUCTION

On February 9 through February 11, 2011, David E. Drew and Martin V. Bonsangue conducted a site visit of the Houston Lewis Stokes Alliance for Minority Participation. The external evaluators met with students, faculty, and staff at Texas Southern University, the University of Houston--Central campus, the University of Houston-- Downtown, the Houston Community College, San Jacinto Community College, and Texas State University (the evaluation schedule is given in Appendix 7). The evaluation team was provided background documents and data, including information about enrollments and graduation rates (brief evaluator bios are given in Appendix 6).

In addition, the evaluators conducted a questionnaire survey for another project (evaluation of the Texas Southern University HBCU:UP STEP program), which yielded some preliminary data for the questionnaire survey for our proposed longitudinal study of LSAMP participants. Some additional information was gathered during the visit on March 24 and 25 by the external evaluators to Texas Southern University to retrieve the questionnaire data and to participate in a conference about STEM awareness.

Last year we completed, for wide dissemination, a ten-year report of the H-LSAMP Alliance for years 1-10 including Phase I and Phase II. Now completing its first year of Phase III, we view this as a transition year for this Alliance. Consequently, this report is primarily intended to provide formative evaluation feedback for internal use. We begin with a summary of the results from Phase I and Phase II using updated data provided by Executive Director Craig Cassidy. This is followed by a recap of our visits with individual Alliance sites. We close with recommendations for data collection during Phase III.

TEN-YEAR UPDATED REVIEW SUMMARY

Phase I Updated Results

The primary goal of the national L-SAMP program during Phase I was to substantially increase – double, ideally – the number of underrepresented minority students receiving bachelors degrees in STEM fields over the five year period. Indeed, the Houston L-SAMP was extremely successful to this end, greatly increasing the number of students enrolled in STEM majors, and nearly doubling the number of degrees awarded. Comparing year five (2003-2004) to baseline year zero (1998-1999):

- The number of underrepresented minority students enrolled in STEM majors increased by 52.8 % from 3145 to 4804, and
- The number of STEM degrees awarded to underrepresented minority students increased by 62.2 % from 413 to 670.

The “snapshot” pre-post comparison somewhat understates the achievements of the H-LSAMP during Phase I. If we include the data for each year, we find that:

- Assuming a linear increase at the rate of 20 % per year, the expected number of minority students enrolled in STEM majors over the five-year period was 25,160 (using a factor of $8.0=1.2+1.4+1.6+1.8+2.0$). The actual enrollment number was 23,583, representing a cumulative five-year growth of 93.7 %.

- Assuming a linear increase at the rate of 20 % per year, the expected number of minority STEM degrees awarded over the five-year period was 3,304. The actual number awarded was 3,091, representing a cumulative five-year growth of 93.6 %.

Even these last two analyses understate the achievements of the H-LSAMP. In point of fact, doubling in five years would actually require less than a 20% increase each year because of compounding factors. Thus, when accounting for all five years, the H-LSAMP met and exceeded the ideal goal of doubling the number of underrepresented students majoring in, and completing degrees in, STEM fields.

When we compared this growth rate with the national growth rate in minority STEM Bachelor degrees (specifically by combining the growth rates for African and Latino students), by accessing data from the National Science Foundation website, we discovered that the **Houston growth was substantially greater than the national trend—roughly six times the national average.** The external evaluators applied both a discreet and a continuous analytical model to these data which was published in 2005 [Bonsangue, M. & Drew, D. (2005). Effecting Systemic Change in the University: Five-Year Results from the NSF Houston-Louis Stokes Alliance for Minority Participation. *Proceedings of the International Conference on Mathematics, Statistics, and Related Fields*, 1127-1137.]

Phase II Updated Results

As stated in the National Science Foundation guidelines for LSAMP programs, the goal in Phase Two (which for Houston was 2004-2009) was to institutionalize support mechanisms and to sustain the levels of minority STEM Bachelor degree production achieved in Phase One. Each of these goals was achieved as is summarized below.

During the five years from 2004-05 (year six) to 2008-09 (year 10), the number of underrepresented minority students receiving bachelors degrees in STEM Disciplines was 677, 588, 670, 667, and 704, respectively. Again comparing year five (2008-2009) to baseline year zero (2003-2004):

- The number of underrepresented minority students enrolled in STEM majors remained steady with a slight increase of 3.5 % from 4804 to 4976, and
- The number of STEM degrees awarded to underrepresented minority students remained steady with a slight increase of 5.1 % from 670 to 704.

We note two major observations about the degree productivity trends. First, STEM degree productivity increased dramatically during the first phase and reached a steady state at that point. That is, the Houston alliance essentially doubled minority STEM degree production during Phase I and then demonstrated that these high productivity levels could be sustained in Phase II. Second, STEM degree production has remained at a consistently high threshold despite shrinking college and university enrollments in Texas and nationally. These findings are consistent with the goals expressed by the National Science Foundation on its L-SAMP web site:

The program goals are accomplished through the formation of alliances. Phase I awards place emphasis on aggregate baccalaureate production. Phase II awards augment the Phase I emphasis with attention to individual student retention and progression to baccalaureate degrees. Senior Alliance awards augment the Phase I and Phase II emphases with attention to aggregate student progression to graduate school entry.

Discussion

In prior reports, we have documented four key strategies that produce these extraordinary results:

- Aggressive and creative outreach and recruitment efforts.
- Consistent and effective mentoring by faculty and staff.
- Creating peer support groups focused on academic excellence.
- Careful articulation by the four year institutions with community colleges.

The results presented above indicate that participating institutions in the H-LSAMP have been successful at both recruiting and retaining minority students in their STEM majors. Besides the substantial STEM degree production, Phase II data show a marked increase in the number of H-LSAMP students who have gone on to advanced degrees over the past five years. In addition, there is an increase in the number of students successfully matriculating from the two-year colleges and making timely progress towards degree completion. These results support the observation that participating institutions have developed and implemented successful approaches to facilitating minority student achievement in STEM fields.

The success of the Houston LSAMP program was the basis for wide dissemination, including presentations at the joint annual meeting of the American Mathematical Society and the Mathematical Association of America in 2004 and, more recently, with key Congressional aides in 2009. In addition, H-LSAMP alliance institutions were invited to present their work in a special session held at the summer meeting of the Mathematical Association of America in Albuquerque in 2005. These results have been presented at other national and international conferences and will be featured in a forthcoming book to be published by the Johns Hopkins University Press.

The Houston program has experienced several major challenges, not all within its control, including the departure of the president at Texas Southern University and the unexpected death of the Dean of Sciences at Texas State University. There were also changes in key programmatic leadership positions, including those at The University of Houston and Texas State University.

Such changes in leadership are an expected occurrence in programs that are sustained over time. Indeed, the departure of a key person can often hasten the end of the life of a program. This was not the case for the H-LSAMP. Rather, under the leadership of Mr. Cassidy, the program has maintained its level in STEM enrollment and degree production while helping to develop other aspects of the program, including:

- Increased involvement of the two-year colleges in Alliance activities and direction
- Increased opportunities for funding
- Increased emphasis on community and business outreach
- Increased development of individual STEM students at the two-year and four-year institutions
- Increased transition support for transfer students and graduate students

The Houston Louis Stokes Alliance for Minority Participation has successfully met and exceeded the National Science Foundation's goals over the first ten years. Minority STEM degree production increased dramatically during Phase I and has maintained itself at a new and much higher level during Phase II. In addition, the H-LSAMP has developed into a more meaningful partnership of the two-year and four-year institutions, with an increased number of students matriculating from two-year to four-year schools and moving towards degree completion. While there have been some key personnel changes over time, the H-LSAMP has maintained its leadership team and structure which enabled it to weather these changes. Indeed, the stability and growth in STEM degree production no doubt reflect the stability and commitment of the H-LSAMP administrators, faculty, and staff over time. The Houston Louis

Stokes Alliance for Minority Participation has been, and continues to be, a national model of an alliance that makes a difference.

Environmental Factors

Over the past ten years, we have been struck by the stresses placed on the H-LSAMP effort by external forces and circumstances. The accomplishments of this Alliance are all the more impressive considering the environmental forces and barriers that the faculty and staff had to confront. To cite just a few examples:

- The program at the University of Houston--Central was developed under the leadership of Dean John Bear, working with John Hardy and Dr. Sylvia Foster. Following Dr. Foster's departure from the university, there was a somewhat rocky transition period that lasted several years.
- The commitment and skills of the program leadership at Texas Southern University consistently have been outstanding. This leadership team includes Dr. Bobby Wilson, Ms. Michelle Tolbert, and a number of committed mathematics and science faculty. However, enrollments in all Texas Southern programs, including the College of Science and Technology took a hit after a highly publicized financial scandal involving the then-president of the university.
- The LSAMP program at the University of Houston Downtown has been driven by the leadership of Dr. Richard Alo'. During this past year, Dr. Alo' has been assigned to the National Science Foundation, and this has had an impact on the LSAMP program at the University of Houston Downtown.
- The program at Texas State University accelerated rapidly under the dynamic leadership of Dean Stan Israel. Following Dr. Israel's death, the program entered a rocky period. There was considerable controversy surrounding a subsequent dean, and during, and for a period after this controversy, the university's central administration was cautious about investing in programs in the College of Science. More recently, under new leadership at the college level, and at the program level, the program once again is growing and is receiving strong support from the administration.
- In the early years of the Alliance, the external evaluators repeatedly expressed concern about the lack of articulation in the community colleges and the four year institutions. Considerable hidden talent can be found among the students in the community colleges, many of whom have the potential to master STEM courses and build careers in STEM. However, many of these students struggle in harsh economic circumstances. In more recent years, the articulation between these two sectors has been improved through some direct intervention strategies.
- In recent years, the Houston Alliance has benefitted significantly from the efforts and leadership of its Executive Director, Craig Cassidy.

As can be seen from the above observations, the success or failure of systematic institutional reform in STEM often is linked directly to strong institutional leadership, and to the continuity of that leadership. This phenomenon has repeatedly been observed in analyses of science reform efforts; see for example, *Science Development: An Evaluation Study*, in which committed institutional leadership emerged as a major factor in the success of a massive NSF program to build new university "centers of excellence."

Phase III Year One Results

Phase Three activities of this NSF funding revolve around the Bridge to the Doctorate (BD). Alliances that receive Phase III funding are considered mature consortia, which not only have significantly increased the production of minority STEM bachelor degrees, but also are establishing effective doctoral opportunities for traditionally underrepresented groups. During the past year, Dr. Drew presented a lecture to the BD students based on the book he co-authored, *What They Didn't Teach You in Graduate School: 199 Helpful Hints For Success in Your Academic Career.*)

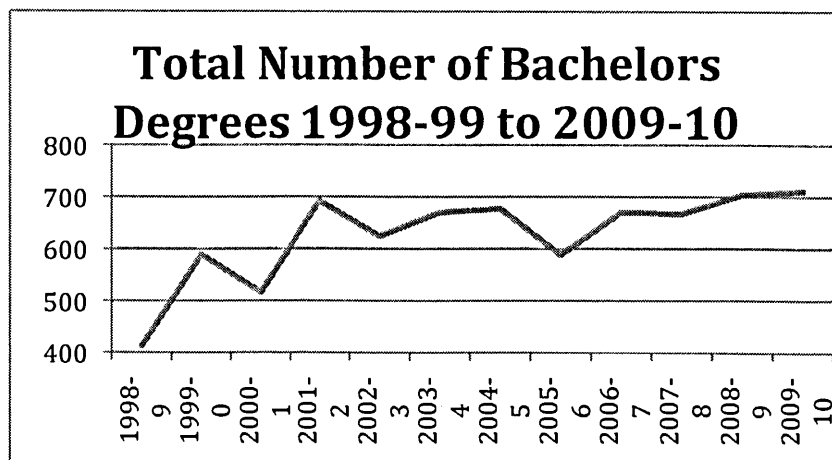
As external evaluators, we view the year addressed in this report, 2009-2010, as a transition year into Bridge to the Doctorate activities. This, of course, has been the first year of funding in Phase III. Our goal throughout Phase III will be to continue to conduct formative evaluations and to put in place quantitative and qualitative procedures to identify, observe, and follow students who make the transition from undergraduate to doctoral STEM study. Pursuant to this, we here re-examine and discuss data trends, both aggregate and by institution.

Using year ten (2008-09) data as the baseline year, during the first year of Phase III (year 11):

- The number of underrepresented minority students enrolled in STEM majors remained steady with an increase of 6.7 % from 4976 to 5311, and
- The number of STEM degrees awarded to underrepresented minority students remained steady with a slight increase of 1.0 % from 704 to 711 (Table 1).

Table 1: H-LSAMP Combined URM STEM Enrollment and Graduation Data, 1998-1999 through 2009-2010												
		Phase I					Phase II					Phase III
	(Yr 0) 98-99	Yr 1 99-00	Yr 2 00-01	Yr 3 01-02	Yr 4 02-03	Yr 5 03-04	Yr 6 04-05	Yr 7 05-06	Yr 8 06-07	Yr 9 07-08	Yr 10 08-09	Yr 11 09-10
Enrlmt	(3145)	4332	4444	5363	4640	4804	5312	4439	4807	4584	4976	5311
Depts	(413)	589	516	692	624	670	677	588	670	667	704	711

The chart below represents this data as a line graph over the twelve-year time period. Please note that the aggregate percent of students who were full time enrolled never fell below 71 % nor above 77 %, so that changes in enrollments or degree production are not explained by changes in full time/part time enrollment status (Table 1). Note also that the degree production rate (no of degrees/no of students enrolled) stayed nearly constant between 12.9-14.5 % (except in year 2 when it was 11.6 %). Thus, the degree production kept pace with increased enrollments over time.



For the purposes of this internal formative report we also look at enrollment and degree production by institution for UHC, UHD, TSU, and Texas State. Table 2 gives minority enrollment in STEM majors and bachelors degrees awarded to minority students in STEM fields from 1998-99 through 2009-10. It also gives the total for LSAMP grant years 1-11, as well as the percent of students enrolled as full-time students.

Table 2 reflects the diversity and different missions of the four campuses. TSU and UHC, campuses largely serving traditional-aged students, had more about 80 % of its URM STEM students enrolled as full-time students. UHD, by contrast, serves a more diverse age group with less than 60 % of its students enrolled on a full time basis. Texas State, a comprehensive university, had 70 %.

Table 2 also shows differences in aggregate degree production rate. TSU produced 1349 URM STEM degrees over the eleven-year grant period, a production rate of 9.3 % (compared to the total enrollments in STEM fields over this time period). UHC and Texas State were 13.1 % and 14.3 %, respectively, while UHD had a production rate of 26.6 %.

A one-year (2009-10) snapshot also reflects these data. TSU had 23 seniors with 6 graduating, for a single-year senior graduation rate of 26 %. UHC graduated 28 out of 63 seniors, or 44 %, while Texas State graduated 5 (71 %) of its 7 seniors. UHD graduated 34 of its 54 seniors, for a single-year senior graduation rate of 63 %. Combined, the four universities graduated 73 of its 147 seniors, a graduation rate of 49.7 %.

While the four campuses have differing missions, they share a common purpose for this project: to recruit, retain, and graduate URM students in STEM fields. The data reflect different levels, at least based purely on metrics, of success in this area, especially in moving students through the STEM "pipeline." We would encourage HLSAMP faculty and staff from all four campuses to visit each of the other campuses (perhaps a two-day field trip) to see what successful programs or processes might be adaptable to continue to strengthen these results.

Table 2: HLSAMP URM Enrollment in STEM Majors and Bachelors Degrees Awarded to URM Students in STEM Fields, 1998-99 through 2009-10													
Year	(98-99)	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	Total Years 1-11
TSU	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr10	Yr11	TSU
Enrllmt	(496)	1183	1160	1995	1286	1345	1979	1255	1409	1001	952	997	14562
% FTS	(78.4)	84.1	86.6	87.9	91.7	89.1	85.4	79.8	83.5	80.2	81.1	83.7	85.2 %
Degs	(104)	144	124	178	113	97	183	89	128	79	115	99	1349
UHD	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr10	Yr11	UHD
Enrllmt	(222)	281	429	405	372	445	410	407	394	427	473	446	4489
% FTS	(45.1)	59.8	60.6	60.5	57.8	56.4	53.9	56.3	57.4	59.0	60.0	54.0	57.7 %
Degs	(42)	93	115	113	125	118	133	103	92	92	101	108	1193
UHC	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr10	Yr11	UHC
Enrllmt	(1831)	2085	2070	2186	2252	2339	2289	2116	2378	2288	2611	2760	25374
% FTS	(69.9)	68.0	72.4	70.8	69.6	72.7	69.5	69.8	70.6	68.7	70.0	69.4	70.1 %
Degs	(213)	264	173	281	284	354	258	314	344	309	372	382	3335
TxSt	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr10	Yr11	TxSt
Enrllmt	(596)	783	785	777	730	675	634	661	626	868	940	1108	8587
% FTS	(81.2)	79.6	75.8	75.7	74.8	75.7	74.9	76.2	NA	79.5	79.9	82.0	79.4 %
Degs	(54)	88	104	120	102	101	103	82	106	187	116	122	1231

SITE VISITS

Texas Southern University

On February 9 we met with administrators, faculty, staff, and students at Texas Southern University. As we have stated in past reports, the successful TSU program reflects the work and leadership of its director, Dr Bobby Wilson and his assistant, Ms Michelle Tolbert. We also acknowledge here Dr Renard Thomas for his many contributions in student advising and involving students in research projects.

Once again, Ms Michelle Tolbert presented a complete and detailed report on LSAMP activities at the university. That report is included here as Appendix 2, and we will include data excerpts in this section to illustrate observations.

Meeting LSAMP students continues to be one of the highlights of these evaluation activities for the external evaluators. For example, we met Ozzie Ahmed, a sophomore who is a computer science major. He attended high school in Katy, Texas, and briefly attended Houston Community College before enrolling in Texas Southern University. He also took two CISCO courses, while in high school, at a technical school. His professional interests are software engineering in general, and networking in particular. He works mainly with the programming languages, C++ and Java.

A number of former Texas Southern LSAMP scholars now are in graduate school. Dvesharronne Moore is a shining example. This spring she will complete her PhD in cardiovascular chemistry at Texas A & M University. She then will pursue a medical degree at Johns Hopkins University. Prior to enrolling in Texas Southern University, she had attended DeBakey High School in Houston. We believe that TSU should feature Dr. Moore prominently in publicity and outreach about the program, including recruiting efforts. This young woman is an amazing role model, who, by dint of her example, can show high school students—who may be uncertain as to whether they are college material or as to whether they can major in STEM—the kinds of career achievements that are possible for a student who enrolls as a TSU LSAMP scholar.

During our meeting with the students, they commented on the “nurturing environment” in the TSU LSAMP program. We were once again impressed by the powerful internship placements this program consistently provides. LSAMP and university enrollments had been rising steadily, but, when the university’s reputation was tarnished by the scandal involving the former president, recruiting students became extremely difficult. LSAMP enrolled fourteen new students in the past year. However, the quality of education and mentoring they receive has continued to be outstanding. In late April several Texas Southern students were scheduled to present at the annual conference of the National Organization of Black Chemists and Chemical Engineers (Appendices 3 and 4). President Barack Obama was scheduled to speak at that conference.

Graduation rates in the College of Science and Technology are somewhat higher than graduation rates for the university as a whole; graduation rates among LSAMP scholars are dramatically higher than both those numbers. As per Ms Tolbert's presentation, of the 156 LSAMP scholars that have graduated in STEM fields, 134 (86 %) were African-American and students 19 (12 %) were Hispanic. Moreover, 66 of these students (42 %) graduated with honors (Appendix 2).

University of Houston—Central

Our first meeting was with the management team at the University of Houston—Central. This is our understanding of the responsibilities of each person on that team.

De'Anza Johnson—General program management, financial management, disbursement of stipends, lead review of applicants.

Melanese Philbert—Transfer students, day-to-day management.

Dawnelle Prince-Parks—Recruitment.

Ryan Sauve—Facilitators, workshops, assistants.

Over the past few years we have observed that there sometimes are failures to communicate among this management team. We don't have enough information to know whether this is an occasional problem or a more systemic issue. We suggest that regular, weekly staff meetings to discuss all matters in front of the management team might be a useful mechanism.

We met with SEP students, including: Aliya Bayer, ME; Alicia Brazelton, Biochem; Norman Guardia, EE; Samantha Fuentesvilla, CE; Noah Joost, ME; Panya Khan, Geo; Peter Reza, Physics; Carissa Sims, Math; Catherine Chu, Chem; Rejhi Dyson, Physics; Sonya Fuentesvilla, Chem; Nicholas Thomas, CE; Eduardo Valdez, IE; Halit Dilber, ME; Cindy Au, ME; and Jhalysa Williams, Math.

Program suggestions from these students focused on developing more SI facilitators, recruiting students already enrolled in classes via list serves, and increasing visibility on campus.

We also met with PhD students who are supported by the Bridge to the Doctorate program. The students with whom we met are: Kim Anthony, Kirk Braggs, Ivondela (Ivy) Eakins, Nick Mustachio, William (Will) Rifenburg and Mark White.

Nick is a second semester graduate student in chemistry. He has always wanted to be a scientist or engineer. He was an undergraduate at Texas State University, where he majored in chemistry and applied math. He had an internship at the Johnson Space Center while in high school, and working there remains his dream job. He wanted to be an astronaut then, and still does. He's originally from Houston.

Kirk is a first year student in pharmaceuticals. He was born in Oklahoma and attended Langston University, where he majored in chemistry. However, he has lived most of his life in Houston and he was happy to get back to this city for his graduate studies.

Kim is a second year student in biochemistry, originally from Shreveport, who majored in biology at Louisiana State University, and, as a child, was always interested in books about, for example, frogs, and more generally science.

Will is originally from Houston and has been interested in science since before he was ten years old. He is in his first year as a graduate student in mechanical engineering and earned his Bachelor's from the University of Houston—Central campus.

Ivy grew up in Houston and attended Dillard University in Louisiana, as a biology major, with a chemistry minor. She presented at her first Science Fair when she was in the fifth grade. She is a first year graduate student in cellular and molecular biology.

Mark also is a first year graduate student in cellular and molecular biology. He is from Houston and was a biology major at the University of Houston. When he was eighteen he worked at the Shell office building and he had the opportunity to witness scientists in action.

Most of these graduate students indicated that they would not be here without the Bridge to the Doctorate program. Each of the two women is a single mother. Mark indicated that he would have been here as a graduate student, but it would have been much harder. Ivy underscored the great value of the practical seminars on money management and time management, as well as the benefits of attending conferences. These three resources provide useful tools for professional growth. The Bridge to the Doctorate students meet once a week with Executive Director Craig Cassidy.

With respect to recruiting, Dawnell described a cardboard boat regatta project they had created for high school students. The goal was to increase the number of physical science students who apply to the University of Houston. They covered eight schools; all the students who participated were seniors in physics. Several of them have entered the program. She and her associates also put together a mock weather forecast project, recruited four local meteorologists to participate, and received media coverage of this project. BP awarded a grant to support this work.

DeAnza said that there had been changes in administrative and recruitment procedures in the past year. There now is a greater emphasis on transfers to LSAMP and other pathways; for example, the SEP program. She also noted the contribution made by practical career building lectures that are presented to the students on Tuesdays and Wednesdays. The program now has a Facebook page. The student demographics have changed; some have dropped out; the current group of students is doing less research than previously, with fewer conference presentations. The University of Houston used to get many underrepresented minority biology students from DeBakey High School. That has changed in recent years: they are swamped with engineering students.

We also met with incoming NSM Dean Smith to discuss and perhaps help explain the program. We pointed out the four main strengths of the Alliance, namely, recruiting, mentoring, peer groups, and CC articulation. Dr Smith seemed extremely supportive of the H-LSAMP and is committed to its continuation. Meetings with Dr Elaine Charlson and Dr Ed Huegot likewise reflected this commitment.

University of Houston—Downtown

Given the fact that Dr. Richard Alo' is on a leave, serving at the National Science Foundation, we did not conduct a full formative evaluation of the UHD LSAMP program.

We did meet with Interim Provost Michael Dressman, and had an in-depth discussion about students and research at UHD. He noted that the institutional research agenda has been somewhat confused in the past, and there has been a tendency for those writing proposals to "go for what's available." However, they have been most successful with grant proposals that directly involve students.

A brief meeting with UH-D students produced some good conversations. Undergraduate students Sara Wilder (math), is a transfer from HCC. She stated that coming to UH-D "was the best thing for me," and for her two-year old son as well. Michael Butterworth (CS), attended an SRC research conference. Brian Holtcamp (CS), chose UHD over Rice University for both financial and academic reasons. The students noted that the PLTL conference was held July 6-8, 2011, at UHD.

A lunch with Ms Rene Garcia, Dr Mary Jo Parker, Dr Lisa Morano, and Dr Jerry Johnson focused on using the Texas Data Base as a way to track and compare student progress for LSAMP and non-LSAMP students. They also discussed ways to involve more faculty in H-LSAMP related programs via an alumni series at UHD.

Appendix 3 gives information on H-LSAMP/Scholars Academy activities at UHD from the fall 2010 semester.

Houston Community College District

We met with Bart Sheinberg, Prof of Physics, at the HCCD Southwest campus. He said that they have funded roughly a dozen students in the past year—six students in the fall, and about six this spring. He feels that something needs to change at the campus in order to address

the scale of the campus and its students. Indeed, the district is in the top five in the country in terms of the size of the enrollments.

The Houston Community College District comprises six colleges, but has one accreditation as a district. Each has its own niche, for example, applied health. All told, there are about 75,000 students enrolled. About 50,000 are pursuing academic subjects (as opposed to vocational subjects) and about 5000 – 6000 of those have an interest in STEM disciplines.

The Houston Community College District has the largest international student population in the country. About half of the STEM students are international students; this creates some funding challenges.

The Northwest College has a particularly strong science program and is associated with the West Houston Science Center, which was started in 2006-2007. The purposes of the West Houston Science Center are one, the promotion of science and engineering; two, promoting undergraduate research; and three, science and engineering policy related to higher education.

When we discussed the transition to a four-year institution, he commented, “It’s the doors that open when you get into the AMP program; this provides a way to explore possibilities in STEM disciplines.” He feels that they need a better advising system and better methods to make students aware of LSAMP. He noted that 90 percent of HCC students have absolutely no idea what “engineering” or “biologist” really means. The LSAMP program provides a cohort experience, as well as workshops and other activities. He notes that online registration, while more efficient than traditional registration, may not be a good thing. He suggested that it would be valuable to have a panel of successful Latinas talking about their STEM education experiences at the community college. Would there be funding for an initiative like this? He suggested it would be valuable, in recruiting Latinas, to visit their homes and talk with their parents. He noted the need to improve the coordination between the Northwest and Southwest campuses. The LSAMP students should identify as LSAMP students, not as a Northwest campus or Southwest campus student. He hopes to see a strong infrastructure in place in the Houston Community College in a few years.

While scaling up the program is consonant with our recommendations from past reports, the past ten years has shown that it will not happen without greater awareness by, and involvement of, HCCD administrative leaders.

Texas State University

We were delighted to see that the LSAMP program at Texas State University was once again thriving under the leadership of Susan Romanella, who has brought energy, vision and committed mentoring to the program. Interviews with students, faculty, staff, and administrators reflected this renewed level of interest and commitment. We also welcome Dean Seidman to the team at Texas State, as well as the continued participation and support of of Dr. Habingreither.

In our meetings, we learned several unique features of the university. Texas State University has the second highest enrollment of veterans in the state, and is on the verge of being named a Hispanic Serving Institution.

Of the 144 students that have been funded by the LSAMP program, 119 (82.6 %) have been STEM majors, 10 transferred to a field other than STEM, and the major and career choices of 15 are unknown. The program currently has 30 students with plans to grow this to 60 within five years.

We met with several faculty members, including Dr. Heping Fred Chen, Dr. Reiko Graham, Dr. Robert McLeon, and Dr. Byron Gao. They said the program has high visibility and, while they were initially not involved in the program they have been drawn into it and have been impressed by it. We discussed steps to institutionalize the program, and whether and how it could be named for the late dean, Stan Israel. In meeting with Associate Provost Dr Gene Bourgeois,

we learned that the office of the provost has generously contributed \$50,000 a year to LSAMP, and that has made a huge difference in the success of this program. Dr Bourgeois spoke enthusiastically about the "value added" from the program and plans to institutionalize the program at Texas State.

In the afternoon we met with an impressive group of LSAMP scholars. Amanda Duran, Rebecca Flores, and Sherille Bradley were named as outstanding students. We also met with Sara Camacho, Greg Guzman, Juan Gonzalez, Monique Jones, Elaine Rull, Austin Williamson, Gabe Hurtado, Miguel Cazares, and Saul Villareal. This group included students from 2nd through 5th semesters in the program, representing a wide range of major specialties, including robotics and nanotechnology, as well as international pre-college backgrounds, including Mexico and Puerto Rico. Juan and Miguel gave an excellent presentation on their *CATSMAP* program, a sort of in-house GPS system for new folks trying to get around on campus in the shortest possible time (cs.txstate.edu/~jg1595/CatsMap.html). Greg and Saul also made a fascinating research talk on *Simulating Green Wafer Fabs*. Saul also presented on his NSF-funded project, *Metamodeling-Based Approximations for Optimization*. Appendix 4 gives more detail on some of the many LSAMP activities at Texas State.

San Jacinto College

In our ten-year report we featured the outstanding work done by the SJAC team led by Prof Sharon Sledge. This year we met with SJAC co-PI Prof Sharon Sledge and her team, including Prof Chris Wild, Dr Joyce Miller, and Prof Benny Jenkins, along with SJAC LSAMP students Sergio Ortuno and Eliazar Nava. Eliazar is doing an internship in robotics; Sergio served in the navy, married, and has returned to school. Prof Sledge provided a summary of the activities of the program, together with goals essays written by some of the LSAMP Scholars (Appendix 5).

The team reported that there are 14 students currently in the program. The College continues matching scholarship funding in the amount of \$ 30,000 per year as well as providing course releases for participating instructors.

As has been reported previously, some students have had trouble with the transfer process (especially at UH) and have had difficulty "separating" from the two-year institution.

Based on these and previous discussions, we see the SJAC program as being at a crossroads. While the leadership team has done a great job at creating and sustaining an active program, there has been limited program awareness at the administrative level despite the funding support. Clearly the LSAMP program at SJAC is one of the points of light for the SJCC system and needs to be featured far more prominently by the college on its website and other communications to potential and current students.

Regarding transfer issues, we recognize the challenges of transferring from the two-year to the four-year institution. Indeed, there is a rich literature documenting and analyzing this very topic. We see a shared responsibility between two-year and four-year institutions to create structures that readily facilitate this transition. At the same time, matriculating students may need to be more pro-active in their efforts to navigate the transfer process.

As we have reported in the past, the SJAC program is a national LSAMP model for two-year colleges. We look forward to visiting with SJAC again next year with anticipation that the visibility and viability of the program will have reached the next level.

DATA COLLECTION FOR PHASE III

The H-LSAMP has an important story to tell. Indeed, that story has been told to a certain extent via conference presentations and proceedings. For Phase III, we would like to help the program move towards a higher level of metric evaluation. This would, hopefully, result in more "hard" data that could be published in significant scientific and educational journals.

Towards that end we include here a metric that we recently developed for the Texas Southern University HBCU:UP STEP program. Based in part on the work of Alexander (Sandy) Astin and the Higher Education Research Institute at UCLA, this survey measures both achievement and attitudinal variables. The survey could be readily re-designed so as to fit specific needs of the H-LSAMP. We plan to speak with Executive Director Cassidy soon about the possibility of doing such research.

For clarity, we have reprinted excerpts from the TSU report below with permission of the project PI, Dr. Bobby Wilson. Please note that the instrument primarily addresses Goal 2: To effect changes in the TSU academic culture.

TSU HBCU:UP STEP Report Excerpts, August 2011

Overview Project STEP is an NSF-funded effort to increase the number of bachelor's degrees in science, technology, engineering, and mathematics (STEM) fields awarded to students of underrepresented minority groups. This project complements the ongoing L-SAMP program, now in its third five-year phase as a Senior Alliance. While the LSAMP project also aims at strengthening minority achievement in STEM disciplines, there are two substantial differences between LSAMP and STEP. First, STEP focuses specifically on students majoring in Biological Science or Engineering Technologies. And second, STEP includes substantial components for COST faculty development and curriculum enhancement.

Purpose The purpose of this evaluation is to report on data collected on students involved in the TSU College of Science and Technology STEP program (treatment group) as well as students not involved in STEP who have comparable academic predictors (control group). This information will be used to serve as a comparison for measuring the impact of STEP on student achievement and engagement as well as impact on programmatic, departmental, college, and/or other institutional impact.

Overview The Science and Technology Enhancement Program (STEP) is an academic excellence program designed for outstanding high school students, who are interested in pursuing degrees in the sciences, technology, engineering, and mathematics (STEM) fields. This scholarship is funded by the National Science Foundation and awarded by the STEP scholarship office. Applicants must be U.S. citizens or permanent residents. The majors supported are biology and engineering technologies. There are three levels of awards: President's Award, \$14,000 per year (Valedictorian); Provost's Award: \$13,000 per year (Salutatorian); and Dean's Award: \$2,000 - \$12,000 per academic year. The STEP project focuses primarily on students majoring in the biological sciences or in engineering technologies. As of fall 2009 there were 61 STEP scholars funded at the level of between \$ 3,000 – 12,000 per academic year.

Goals and Objectives The STEP program has two overarching Program Goals:

- Goal 1** To increase the number of African-American and female graduates in all STEM field offerings at TSU.
- Goal 2** To effect changes in the TSU academic culture.

Evaluation Research Questions The TSU STEP program has been committed to doing a comprehensive evaluation of its programs and operations. This formative feedback and summative evaluation will help enable the program to contribute to the national conversation on how effective models for STEM scholar recruitment, support and retention can be adapted and implemented at the regional and national levels.

Per the evaluation plan, a specific and measurable set of research questions (RQ) is linked to each Objective. For clarity and completeness, we have also included Goal 1 and Goal 2 as measurable Objectives 4 and 5.

- | | |
|--------------------|--|
| Objective 1 | To increase the COST graduation rate from 9 % to 25 % over the five-year period. |
| RQ 1A | What was the overall COST graduation rate each year over the five-year period? |
| RQ 1B | What was the graduation rate of STEP students compared with that of students in the control group? |
| Objective 2 | To increase undergraduate student participation in research projects and presentations. |
| RQ 2A | How many students in the COST participated in research projects and presentations each year over the five-year period? |
| RQ 2B | What was the number and participation rate of STEP students in research projects and presentations each year over the five-year period compared to the number and participation rate of students in the control group? |
| Objective 3 | To contribute to increasing diversity in the STEM workforce. |
| RQ 3A | How many students graduating in the COST have obtained positions in STEM-related work fields? |
| RQ 3B | What was the number and rate of STEP students obtaining positions in STEM-related work fields compared to the number and participation rate of students in the control group? |
| RQ 3C | How many students graduating in the COST have gone on to graduate or professional school in STEM-related fields? |
| RQ 3D | What was the number and rate of STEP students going on to graduate or professional school in STEM-related fields compared to the number and rate of students in the control group? |
| Objective 4 | To increase the number of African-American and female graduates in all STEM field offerings at TSU. |
| RQ 4A | What was the number and rate of African-American and female graduates in all STEM field offerings at TSU each year over the five-year period? |
| RQ 4B | What was the number and rate of STEP African-American and female graduates in all STEM offerings at TSU compared to the number and rate of students in the control group? |
| Objective 5 | To effect changes in the TSU academic culture. |
| RQ 5A | What was the overall academic experience perceived by STEP students compared to that perceived by students in the control group? |
| RQ 5B | What was the overall academic experience perceived by COST faculty prior to and after STEP? |

Method A survey instrument, the Texas Southern University College of Science and Technology Student Survey, was given to students in the treatment and control groups in February 2011. The instrument was based, in part, on instruments designed and used by the Higher Education Research Institute. For the past forty years the HERI institute, founded by Dr Alexander (Sandy) Astin, does research on student learning and college impact, diversity on campus and retention and persistence (<http://www.heri.ucla.edu/>). During this time Dr Drew has worked with Dr Astin on various aspects of this project. The Texas Southern University College of Science and Technology Student Survey is divided into five sections:

1. Educational and Career Aspirations
2. Academic Experience at TSU
3. Personal Experience at TSU
4. Academic Background and Experience
5. Socioeconomic Information

With the assistance of the dean's office of the TSU College of Science and Technology and the STEP leadership team, the paper survey was administered in class by the course instructor in mathematics and science classes over a three-day period in February 2011. Students were given an instruction sheet explaining the purpose of the survey and stating that participation was optional. Students who had already taken the survey were requested not to retake it. The physical forms were collected by the STEP Project director and given to the evaluators in sealed manila folders.

Sample A total of 265 surveys taken from seventeen classes were collected. The sample was limited to students enrolled in the same class sections as those of the treatment students to minimize possible effects due to different instructors. The sample included 54 STEP students and 211 non-STEP students. Since this study focused on students in STEM fields, any survey not indicating a major was not included in the analysis. There were eight (8) such respondents in the control group and none in the treatment group. Thus, there were 54 valid surveys for the STEP group and 203 valid surveys for the non-STEP group. Some of the respondents did not respond to every item. In these cases, data was used only from respondents who had responded to that particular item. For most items the response rate was 90% or higher for each group.

All data from both groups was self-reported. Students were requested to also give their TSU student T-number so that the responses could be linked to institutional records. Thirty-two of the 54 STEP students (59 %) reported their T-number. Similarly, 115 of the 203 non-STEP students (57 %) reported their T-number. While non-reporting respondents could be eliminated from the sample, that would impact the sample size, especially for the treatment group, and possible bias the results. The present analysis thus includes all 257 survey respondents using the information as reported on the survey,

Description Before addressing specific RQs we will report on the characteristics of both groups. This will be useful in understanding and interpreting findings later in the report.

Major In both groups the sample was essentially comprised of students majoring in biology or engineering technology (ET). The STEP sample was comprised of 30/54 (56 %) majoring in biology, 21/54 (39 %) majoring in ET, and 3/54 (6 %) in chemistry (2 students) and environmental studies. The non-STEP sample was comprised of 91/203 (45 %) majoring in biology, 103/203 (51 %) majoring in ET, and 9/203 (4 %) in chemistry (5 students), physics (2 students), mathematics (1 student), and aviation science technology (1 student). Thus, in both

groups 95 % of the students were biology or ET majors.

Gender The STEP sample group was comprised of 54 % men and 46 % women; the non-STEP group was comprised of 59 % men and 41 % women.

Ethnic affiliation The modal ethnic affiliation for both groups was African-American. However, this concentration was more pronounced for the treatment group. More than three-fourths of the STEP group was comprised of African-American students (41/54) compared to 55 % of the non-STEP group. Ten percent of the non-STEP group declined to state their ethnic affiliation. Table 1 gives specific data for both groups.

	Afr-Am	Asian	Hispanic	NA/PI	White	Other	Decline
STEP	75.9%	3.7%	5.6%	1.9%	0.0%	16.7%	0.0%
non-STEP	55.1%	5.4%	5.9%	2.0%	4.4%	17.2%	10.3%

Age The mean age of 24.2 was identical for both group; however, distributions were slightly different, with the standard deviation of the STEP group (4.84) higher than that of the non-STEP group (3.78). This may be due to the difference in sample sizes since quartile markers were nearly identical for both groups. Ages ranged from 19 to 42 for the STEP group and 18 to 40 for the non-STEP group.

Parents' Educational Level Data reporting the student's mother's and father's educational levels were combined for each group of respondents (Table 2). Thirty-nine percent of the STEP group reported at least one parent completing HS or less, compared to 34 % of the non-STEP group. Each group reported that about 22 % had completed a bachelor's degree. More than one-fifth (22.6 %) of the STEP group reported one or more parents completing an advanced degree compared with 13.1 % of the non-STEP respondents.

	up to 8th	Some HS	Compl HS	Some Coll	AA/AS	BA/BS	MA/MS	MD/PhD
STEP	8.6%	0.0%	30.1%	12.9%	3.2%	22.6%	14.0%	8.6%
non-STEP	5.6%	6.4%	22.2%	21.4%	8.9%	22.5%	7.5%	5.6%

College Status STEP and non-STEP students were asked questions about their college trajectory and status, including if they were the first in their family to attend college; if they had taken any time off between HS and college (TSU or another college); transfer status; and financial aid status. Table 3 shows that a slightly higher proportion of STEP students were the first in their families to attend college than that of the non-STEP group. More than one-fourth of the respondents in both groups reported having taken some time between HS and college. More than half of the non-STEP students reported being a transfer student compared with 40 % of the STEP students. More than four-fifths of the STEP students reported that they receive financial aid (\$ 11,400 average annual amount) compared to 68 % of the non-STEP students (\$ 9,600 average annual amount, Table 3.)

	First in family	Took time off	Transfer student	Rec. financial aid (all sources)
STEP	36.1%	29.8%	39.6%	81.3% (\$ 11,400)
non-STEP	26.7%	26.0%	53.3%	68.0% (\$ 9,600)

Students also reported their class standing at TSU (Table 4). The non-STEP group included more junior-level students, perhaps linked to the larger transfer rate. More than half of the STEP group were either a first-semester or second-semester senior, compared with 36 % of the non-STEP group. About one-eighth of the students in both groups were "super seniors," that is, being in senior standing for three or more semesters. Roughly half of each group (STEP 52 %, non-STEP 44 %) were local students in the Houston area.

	Freshman	Sophomore	Junior	Senior	Super Senior
STEP	0.0%	17.6%	15.7%	54.9%	11.8%
non-STEP	2.7%	12.3%	36.4%	36.4%	12.3%

Academic Achievement Both groups reported being strong students at or above the B level. The STEP group self-reported a mean HS grade point average of 3.49 (sd=0.53) and a mean college grade point average of 3.22 (sd=0.38). The non-STEP group self-reported a mean HS grade point average of 3.34 (sd=0.44) and a mean college grade point average of 3.07 (sd=0.44). Neither of these differences between groups was statistically significant ($t < 0.5, p > .10$). However, nearly half of the STEP respondents (25/53) reported themselves as being an honors student compared with fewer than one-fourth (39/177) of the non-STEP students.

The survey also asked students to rate themselves on seven items on their self-efficacy in doing mathematics and science. Tables 5a and 5b give the results for each item for both STEP and non-STEP students.

Item	Not	Smwht	Present	Very	Extr	NR
1 math chall	1 1.8%	8 14.8%	27 50.0%	13 24.1%	5 9.3%	0
2 math int	4 7.4%	15 27.8%	22 22.2%	9 46.3%	4 11.1%	0
3 math conf	2 3.7%	12 22.2%	25 46.3%	9 16.7%	6 11.1%	0
4 sci chall	0	4 7.4%	23 42.6%	19 35.2%	8 14.8%	0
5 sci int	0	2 3.7%	22 40.7%	17 31.5%	13 24.1%	0
6 sci conf	0	2 3.7%	19 35.2%	24 44.4%	9 16.7%	0
7 enjoy	0	9 16.7%	15 27.7%	19 35.2%	10 18.5%	1 1.9%
TOTAL ALL RESPONSES	7 2.2%	52 16.0%	153 47.2%	110 34.0 %	55 17.0%	1 0.3%

Item	Not	Smwht	Present	Very	Extr	NR
1 math chall	12 5.6%	38 18.7%	99 48.8%	42 20.7%	11 5.4%	1 0.5%
2 math int	20 9.9%	45 22.2%	71 35.0%	53 26.1%	14 6.9%	0
3 math conf	8 3.9%	36 17.7%	80 39.4%	57 28.1%	16 7.9%	6 3.0%
4 sci chall	3 1.5%	31 15.3%	76 37.4%	75 36.9%	14 6.9%	4 2.0%
5 sci int	27 13.3%	76 37.4%	68 33.5%	28 13.8%	4 2.0%	0
6 sci conf	1 0.5%	22 10.8%	79 38.9%	76 37.4%	21 10.3%	4 2.0%
7 enjoy	3 1.5%	27 13.3%	75 36.9%	67 33.0%	26 12.8%	5 2.5%
TOTAL ALL RESPONSES	74 6.1%	275 22.6%	548 45.0%	398 32.7%	106 8.7%	20 1.6%

The distribution of the totaled responses compared favorably for both groups (Figure 1). STEP students indicated a somewhat great level of challenge in doing their mathematics and science courses than did non-STEP students. Interestingly, STEP students also indicated a somewhat greater level of interest in these same courses than did their non-STEP counterparts.

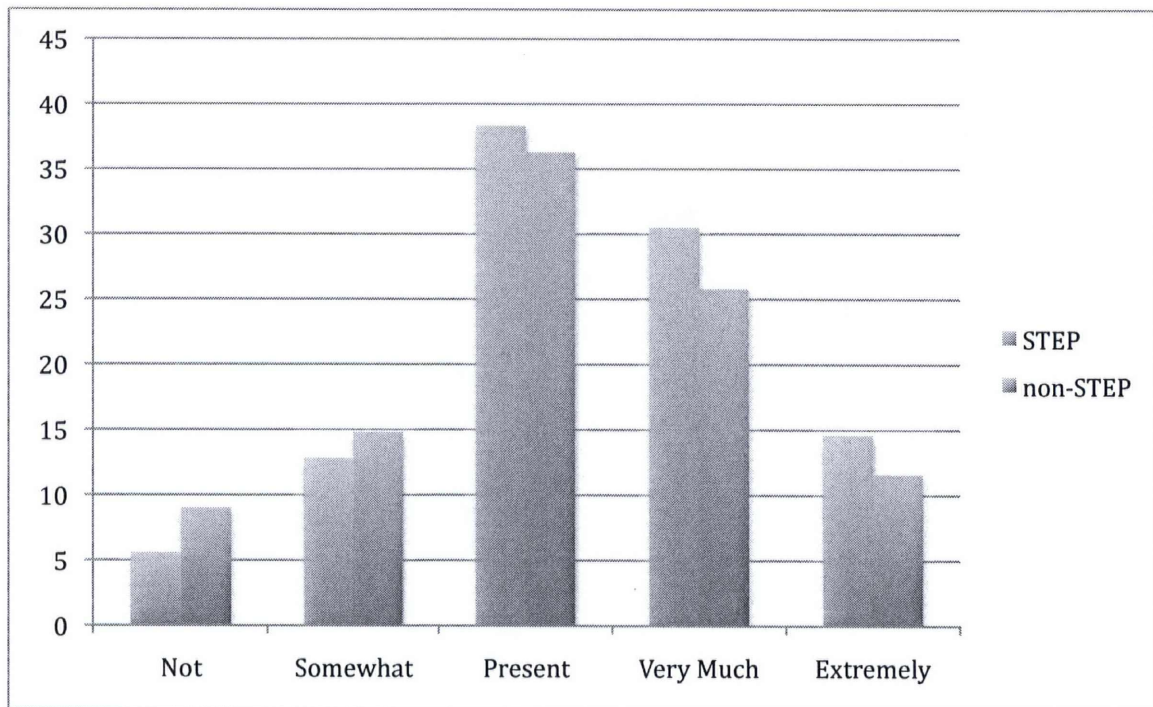


Figure 1: Math and Science Self-Efficacy for STEP and non-STEP Students

Summary The data presented here reflect two groups that are comparable on a number of qualities, including major (by design), gender, age, academic preparation, academic achievement, and mathematics and science self-efficacy. There were differences noted for ethnicity, first-generation college status, and parental educational backgrounds. The STEP group had less ethnic diversity than the non-STEP group, with 75 % of its students indicating an ethnic affiliation of African American; however, lower reporting rates for the non-STEP group makes this difference difficult to interpret. The STEP group includes a significantly higher proportion of first-generation college students compared to the non-STEP group, coupled with a higher proportion of parents who completed an advanced degree. Perhaps the most startling difference is the number of STEP students who consider themselves honor students (47 %) compared with non-STEP students (22 %) despite little or no differences in academic predictors.

The report now examines the objectives and their specific research questions. As stated previously, this reprint focuses on impact on research participation and academic culture.

Objective 2 To increase undergraduate student participation in research projects and presentations.

RQ 2A How many students in the COST participated in research projects and presentations each year over the five-year period?

As part of the questionnaire students were asked to report their involvement in research projects as well as their intention to participate in research projects in the future. A positive response indicated that the student had participated in at least one such project so far while at TSU. Table 6 shows that overall, about one-fifth of the 257 COST students in the sample indicated that they had participated in at least one research project while at TSU. Moreover, of those who had not yet participated, nearly three-fourths indicated an interest or intention to do so before graduating.

Table 6: COST Undergraduate Student Participation in Research Projects and Presentations at TSU					
	<i>n</i>	Yes	No	Decl. to state	Likely to partic.
STEP	54	20 (37.0%)	30 (55.6%)	4 (7.4%)	24/30 (80.0%)
non-STEP	203	32 (15.8%)	161 (79.3%)	10 (4.9%)	106/161 (65.8%)
Total	257	52 (20.2%)	191 (74.3%)	14 (5.4%)	130/191 (68.1%)

RQ 2B What was the number and participation rate of STEP students in research projects and presentations each year over the five-year period compared to the number and participation rate of students in the control group?

Table 5 shows that STEP students participated in research projects at a significantly higher rate (37 %) than did non-STEP students (16 %). The present sample, which was not a census, showed that 20 STEP students had participated and 32 non-STEP students had participated. Whether or not the non-STEP rate can be extrapolated to estimate the total number of participating COST students may depend on other factors such as class standing and achievement within the major.

In summary, there is evidence that a non-trivial proportion and number of COST students, both STEP and non-STEP, have participated in research projects during the life of the STEP project.

Objective 5 To effect changes in the TSU academic culture.

RQ 5A What was the overall academic experience perceived by STEP students compared to that perceived by students in the control group?

Students were asked to respond to nine questions rating their general school experience and support systems, including faculty, friends, counselors, and family. These Likert scale items were based, in part, on similar items used in the HERI study. Tables 7a and 7b gives the response rates for each item for both the treatment and control groups.

Item	Not	Some-what	Present	Very	Extre-mely	NR
1 involvement in school activities	6 11.1%	7 13.0%	21 38.9%	12 22.2%	8 14.8%	0
2 connection with students	3 5.6%	9 16.7%	22 40.7%	13 24.1%	7 13.0%	0
3 connection with faculty	2 3.7%	8 14.8%	28 51.9%	11 20.4%	5 9.3%	0
4 overall TSU experiece (vn-neg-neutral-pos-vp)	0	4 7.4%	16 29.6%	21 38.9%	13 24.1%	0
5 family support (no-vlitttle-some-lots-incrd)	2 3.7%	4 7.4%	20 37.0%	13 24.1%	14 25.9%	0
6 precollege friends support (no-vlitttle-some-lots-incrd)	4 7.4%	7 13.0%	24 44.4%	14 25.9%	5 9.3%	0
7 TSU friends support (no-vlitttle-some-lots-incrd)	3 5.6%	5 9.3%	14 25.9%	26 48.1%	5 9.3%	1 1.9%
8 Advi/Couns support (no-vlitttle-some-lots-incrd)	3 5.6%	12 22.2%	21 38.9%	12 22.2%	6 11.1%	1 1.9%
9 faculty support (no-vlitttle-some-lots-incrd)	4 7.4%	6 11.1%	20 37.0%	16 29.6%	8 14.8%	0
Total Responses	28 5.6%	63 12.8%	192 38.3%	138 30.5%	74 14.6%	2 0.4%

Item	Not	Some-what	Present	Very	Extre-mely	NR
1 involvement in school activities	66 32.5%	47 23.2%	48 23.6%	22 10.8%	12 5.9%	8 3.9%
2 connection with students	10 4.9%	38 18.7%	90 44.3%	44 21.7%	17 8.4%	4 2.0%
3 connection with faculty	18 8.9%	51 25.1%	80 39.4%	43 21.2%	6 3.0%	5 2.5%
4 overall TSU experiece (vn-neg-neutral-pos-vp)	1 0.5%	9 4.4%	67 33.0%	91 44.8%	28 13.8%	7 3.4%
5 family support (no-vlitttle-some-lots-incrd)	15 7.4%	19 9.4%	49 24.1%	53 26.1%	63 31.0%	4 2.0%
6 precollege friends support (no-vlitttle-some-lots-incrd)	11 5.4%	20 9.9%	80 39.4%	66 32.5%	21 10.3%	5 2.5%

7 TSU friends support (no-vlittle-some-lots-incred)	12 5.9%	11 5.4%	87 42.9%	64 31.5%	24 11.8%	5 2.5%
8 Advi/Couns support (no-vlittle-some-lots-incred)	15 7.4%	39 19.2%	76 37.4%	47 23.2%	22 10.8%	4 2.0%
9 faculty support (no-vlittle-some-lots-incred)	16 7.9%	36 17.7%	86 42.4%	41 20.2%	19 9.4%	5 2.5%
Total Responses	164 9.0%	270 14.8%	663 36.3%	471 25.8%	212 11.6%	47 2.6%

The distribution of the total responses compares favorably between the two groups (Figure 2). However, three important differences were noted. First, STEP students reported a significantly higher level of involvement in school activities ($t > 2.5, p < .01$), with fewer than one-fourth of the students reporting a low level compared to well over half for the non-STEP group ("not involved" or "somewhat involved"). Second, STEP students reported a higher level of support from peers at TSU than did non-STEP students, with 57 % of STEP students reporting a level of "very supportive" or "extremely supportive," compared to 43 % for non-STEP students ($t > 2.0, p < .05$). And third, STEP students reported a higher level of connection to faculty than did non-STEP students ($t > 2.0, p < .05$). Conversely, no measurable differences between the two groups were noted for connection with other students, overall TSU experience, family support, precollege friends support, counselor support, or faculty support.

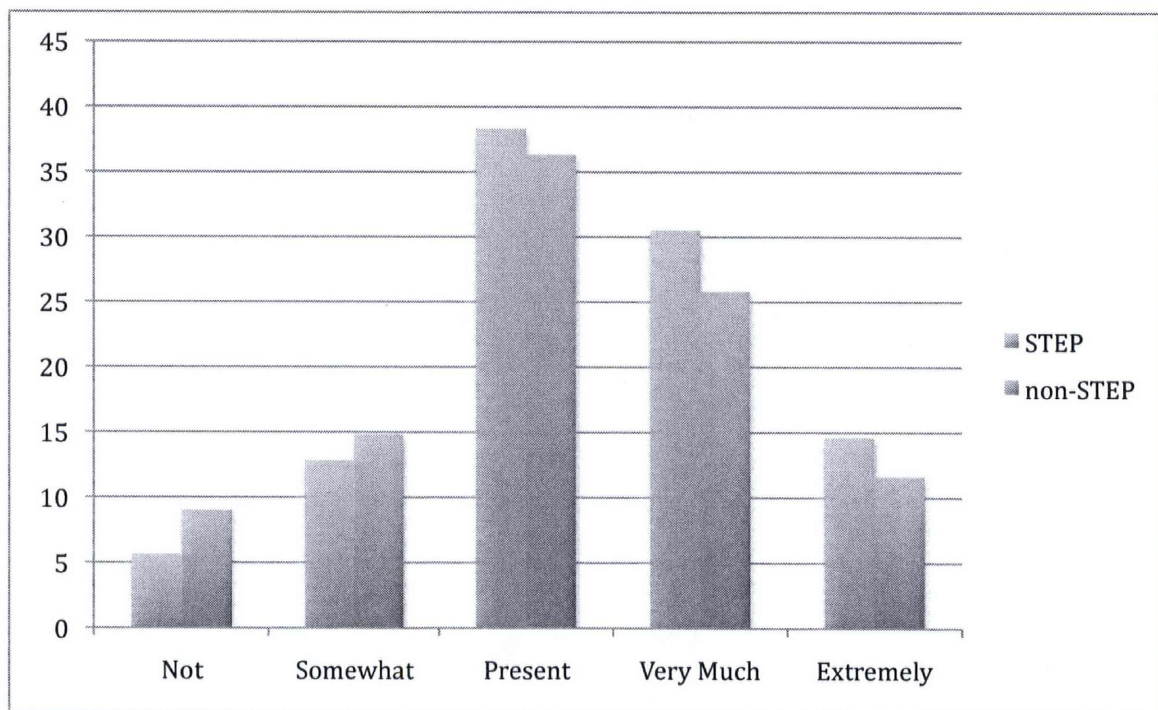


Figure 2: Perceived Academic Experience at TSU for STEP and non-STEP Students

In summary, while interpretation of these findings is constrained by the relatively small number of students in the treatment group, the data suggest that both STEP and non-STEP students in the COST have had a positive experience at TSU and seem to have support systems ranging from adequate to very strong.

RQ 5B What was the overall academic experience perceived by COST faculty prior to and after STEP?

All COST faculty were invited to meet with the project evaluators to discuss their perceptions of the impact of the project. We interviewed twelve faculty, including six who were not associated with the project. The interviews indicated that faculty felt that there was increased effort on the part of COST students since the STEP program had been implemented. This is reflected, perhaps in part, by the increased graduation rates among COST students noted earlier.

Based on our discussions with the department chairs of the STEP areas, there has been impact on faculty development and curricular enhancement. As noted in our earlier reports, this continues to be a work in progress. We would respectfully encourage the continued use of faculty rewards for faculty involvement in projects such as STEP. Specifically, these rewards need to include elements valued by the College and by the University for the RTP process and for consideration for other forms of faculty advancement.

Please note that this analysis does not assume a deficit model. That is, the goal of creating sustainable change does not suggest that the COST is not already doing good things. Rather, this goal has at its center the idea of inclusion at every level: administrative, faculty, staff, and students. Both qualitative and quantitative data pointed towards an increased sense of shared ownership among “stakeholders” for the development of the STEM programs – especially in biology and engineering technologies – at TSU.

Summary There was evidence that the program positively impacted both the number and graduation rates of all students in STEM fields at TSU, including African American and women students. Overall graduation rates in the College of Science and Technology (COST) increased from 9% to 12.3% over the life of the project. While well short of the ambitious goal of 25 %, this did represent more than a 35% increase over the baseline graduation rate. Moreover, these rates were the same for African American students and even higher for women students.

There was also evidence that the program positively impacted changes in the TSU academic culture. The evaluation included data collected on students involved in the TSU College of Science and Technology STEP program (treatment group) as well as students not involved in STEP who have comparable academic predictors (control group). This evaluation included both quantitative and qualitative components. Quantitative measures included retention rates and graduation rates over the life of the project.

A survey instrument, the Texas Southern University College of Science and Technology Student Survey, was also given to students in the treatment and control groups. Survey results showed that the two groups were comparable on a number of qualities, including major (by study design), gender, age, academic preparation, academic achievement, and mathematics and science self-efficacy. STEP students were more likely to be first-generation college students; at the same time, students in this group were somewhat more likely to have had parents with an advanced degree than were students in the non-STEP group.

Despite the lack of broad differences in academic predictors, STEP students were more likely to participate in undergraduate research projects and other academic activities than were their non-STEP counterparts. Perhaps in part because of this, STEP students successfully went on to graduate and professional programs at a higher rate than did students in the control group. More than eighty percent of students in both groups indicated that their experience at TSU had been a

positive one, suggesting that the "climate" in the COST was one that was conducive for students' personal and professional development.

Texas Southern University
College of Science and Technology Student Survey
February 2011

I. Educational and Career Aspirations. Please circle one response for each question.

1. What undergraduate major are you planning to complete here at TSU?

Aviation S&T	Biology	Chemistry	Computer Science	Engineering Technology
Environmental Science and Tech	Industrial Technology	Mathematics	Physics	Transportation Studies

2. How likely are you to successfully complete your bachelor's degree in this major?

Not Likely	Somewhat Likely	Likely	Very Likely	Extremely Likely
------------	--------------------	--------	-------------	---------------------

3. How likely are you to complete your bachelor's degree within 4 or 5 years of starting college?

Not Likely	Somewhat Likely	Likely	Very Likely	Extremely Likely
------------	--------------------	--------	-------------	---------------------

4. How likely are you to complete your bachelor's degree within 6 years of starting college?

Not Likely	Somewhat Likely	Likely	Very Likely	Extremely Likely
------------	--------------------	--------	-------------	---------------------

5. What is the highest level of education you plan to attain?

Bachelor's Deg	Master's Deg	Academic Doctorate	Medical Doctor	Other
----------------	--------------	-----------------------	-------------------	-------

6. How likely is it that in the future you will continue to work in a career directly involving mathematics, science, engineering, or technology?

Not Likely	Somewhat Likely	Likely	Very Likely	Extremely Likely
------------	--------------------	--------	-------------	---------------------

7. What do you plan to do next after graduating from college?

Graduate School	Prof/Medical School	Work in Industry	Work in a Medical Field	Other
--------------------	------------------------	---------------------	----------------------------	-------

8. How likely do you think it is that you will successfully be admitted/employed in this capacity after graduating?

Not Likely	Somewhat Likely	Likely	Very Likely	Extremely Likely
------------	--------------------	--------	-------------	---------------------

9. Have you participated in a research project with a faculty member at TSU?

Yes	No	If so, what?	
-----	----	--------------	--

10. How likely is it that you will participate in a research project prior to graduating?
 Not Likely Somewhat Likely Very Likely Extremely
 Likelv

11. Have you participated in an internship program while at TSU? (please circle one)
 Yes No If so, what? _____

12. How likely is it that you will participate an internship program prior to graduating?
 Not Likely Somewhat Likely Very Likely Extremely
 Likelv

II. Academic Experience at TSU. Please circle one response for each question.

1. In general, how challenging would you say your required mathematics courses have been for you?
 Not Somewhat Challenging Very Extremely
 Challenging Challenging

2. In general, how interesting would you say your mathematics courses have been for you?
 Not Somewhat Interesting Very Extremely
 Interesting Interesting

-OVER-

3. In general, how confident were you in doing your mathematics courses?
 Not Somewhat Confident Very Extremely
 Confident Confident Confident Confident Confident

4. In general, how challenging would you say your science and/or technology courses have been for you?
 Not Somewhat Challenging Very Extremely
 Challenging Challenging

5. In general, how interesting would you say your science and/or technology courses have been for you?
 Not Somewhat Interesting Very Extremely
 Interesting Interesting

6. In general, how confident would you say you have been in succeeding in your science and/or technology courses?
 Not Somewhat Confident Very Extremely
 Confident Confident Confident Confident Confident

7. Overall, how much have you enjoyed your courses in the College of Science and Technology?
 Not Somewhat Enjoyed Very Much Extremely
 Enjoyed Enjoyed Enjoyed Enjoyed Enjoyed

III. Personal Experience at TSU. Please circle one response for each question.

1. How involved in school-related activities have you been at TSU?

Not Involved Somewhat Involved Involved Very Involved Extremely Involved

With what? _____

2. How "connected" do you feel with other students in your major at TSU?

Not Connected Somewhat Connected Connected Very Connected Extremely Connected

3. How "connected" do you feel with faculty in your major at TSU?

Not Connected Somewhat Connected Connected Very Connected Extremely Connected

4. Overall, how would you describe your experience so far at TSU?

Very Negative Negative Neutral Positive Very Positive

5. How much personal or academic support have you received from your family this past year?

No support Very Little Support Some Support Lots of Support Incredible Support

From whom? _____

6. How much personal or academic support have you received from your friends from pre-college this past year?

No support Very Little Support Some Support Lots of Support Incredible Support

7. How much personal or academic support have you received from your friends from TSU this past year?

No support Very Little Support Some Support Lots of Support Incredible Support

8. How much personal or academic support have you received from your counselors/advisors at TSU this past year?

No support Very Little Support Some Support Lots of Support Incredible Support

9. How much personal or academic support have you received from faculty at TSU this past year?

No support Very Little Support Some Support Lots of Support Incredible Support

IV. Academic Background and Experience. Please circle one response for each question.

- What educational institution did you attend immediately prior to coming to TSU?
 High School Community College Other College/University
- What was the highest level of mathematics you took prior to coming to TSU?
 Algebra I Geometry Algebra II Pre-calculus Calculus I Calculus II Calculus III Diff. Eqs.
- What grade did you receive in that course?
 A B C D F W/U I
- How well did that course prepare you for your required mathematics courses at TSU?
 Not At All Very Little Somewhat A Lot An Incredible Amount
- How comfortable are you in each of the following areas of computer technology? (please check one box for each line).

	Not Comfortable	Somewhat Comfortable	Comfortable	Very Comfortable	Extremely Comfortable
Word Processing					
Spreadsheets					
Powerpoint					
Stats Software (SPSS, Mntb)					
Other (please specify)					
Other (please specify)					

V. Tell Us A Little About Yourself. Please answer each question.

- Did you go to high school in the Houston area? Yes No If not, where? _____
- As best you remember it, what was your high school GPA? _____
- As best you remember it, what was your:
 ACT/SAT Math Score? _____ ACT/SAT V Score? _____
- Are you the first person in your family to go to a four-year college/university?
 Yes No Not Sure
- Did you take any time off between HS and college for work or other reason?
 Yes No If so, how long? _____
- Are you a transfer student to TSU? Yes No If so, from where? _____

7. What is your current class standing? (please circle one)

Freshm First Semeste r	Freshm Second Semeste r	Sophom First Semeste r	Sophom Second Semeste r	Junior First Semeste r	Junior Second Semeste r	Senior First Semeste r	Senior Second Semeste r	Senio Thir d or More
---	--	---	--	---	--	---	--	---

8. About how many units (including transferred units) have you completed so far? (please circle one)

0-15	16-30	31-45	46-60	61-75	76-90	91-105	106-120	More Than 12
-------------	--------------	--------------	--------------	--------------	--------------	---------------	----------------	---------------------

9. As best you remember/know it, what is your college GPA? _____

10. What is your age? _____

11. What is/are your ethnic affiliation(s)? Please circle all that apply.

African American/ Black	Asian American/ Asian	Hispanic/ Latino	Native American/ Pacific Islander	White/ Anglo	Other (please specify)
------------------------------------	----------------------------------	-----------------------------	--	-------------------------	-----------------------------------

12. What is your gender? **Male** **Female**

13. What was your father's or male guardian's highest educational level completed? (please circle one)

8th grade or less	Some HS	HS Graduate	Some College	Associate Degree	Bachelor's Degree	Master's Degree	Doctorate/ Professional Degree
---	--------------------	------------------------	-------------------------	-----------------------------	------------------------------	----------------------------	---

14. What was your mother's or female guardian's highest educational level completed? (please circle one)

8th grade or less	Some HS	HS Graduate	Some College	Associate Degree	Bachelor's Degree	Master's Degree	Doctorate/ Professional Degree
---	--------------------	------------------------	-------------------------	-----------------------------	------------------------------	----------------------------	---

15. What is your father's or male guardian's current occupation? _____

16. What is your mother's or female guardian's current occupation? _____

17. Are you currently receiving financial aid? **Yes** **No**

What? (scholarship, loan, etc): _____

If so, about how much in financial aid from all sources (not including your family) do you currently receive per year? (please circle one)

\$ 0-3,000	\$ 3001- 6,000	\$ 6,001- 9,000	\$ 9,001- 12,000	\$ 12,001- 15,000	\$ 15,001- 18,000	\$ 18,001- 21,000	More Than \$ 21,000
-------------------	---------------------------	----------------------------	-----------------------------	------------------------------	------------------------------	------------------------------	------------------------------------

18. Are you an Honors Student at TSU? Yes No Not sure

19. Are you currently involved in the STEP program? Yes No Not sure

If so, what level of funding from STEP are you currently receiving per year? (please circle one)

\$ 0-2,000	\$ 2001- 4,000	\$ 4,001- 6,000	\$ 6,001- 8,000	\$ 8,001- 10,000	\$ 10,001- 12,000	\$ 12,001- 14,000	More Than \$ 14,000
------------	-------------------	--------------------	--------------------	---------------------	----------------------	----------------------	---------------------------

20. Are you currently involved in the L-SAMP program? Yes No Not sure

If so, what level of funding from L-SAMP are you currently receiving per year? (please circle one)

\$ 0-2,000	\$ 2001- 4,000	\$ 4,001- 6,000	\$ 6,001- 8,000	\$ 8,001- 10,000	\$ 10,001- 12,000	\$ 12,001- 14,000	More Than \$ 14,000
------------	-------------------	--------------------	--------------------	---------------------	----------------------	----------------------	---------------------------

21. What is your Student T-number? (for statistical purposes only)

22. If you like, please tell us a little about your career aspirations below.

23. If you like, please tell us why you chose to come to TSU below.



CALIFORNIA STATE UNIVERSITY
FULLERTON

February 2011

Dear Texas Southern University Student:

The purpose of this survey is to gather information about students' experience in the College of Science and Technology at TSU. The information will be used by the College to help document its successes as well as provide feedback on how the student experience at TSU can be further strengthened.

Your confidentiality is guaranteed and protected; your student T-number will be used only to link your responses with follow-up surveys and/or institutional data. Results will be reported only in aggregate (combined) form, and no names or any type of identifiers will be used.

Only the external evaluation team will have access to the data, and no individual's responses will be revealed to any staff member, faculty member, or administrator at TSU. The external evaluation team is not connected with TSU or any of its affiliates.

This survey should take about 8-10 minutes to complete. Participation in the study is voluntary. For research purposes, though, it would be very helpful if you would kindly complete the entire survey. If you are under 18 please do not fill out the survey.

Thank you in advance for your time and participation.

The External Evaluation Team,

Dr Martin V Bonsangue
California State University, Fullerton
mbonsangue@fullerton.edu

Dr David E Drew
The Claremont Graduate University
david.drew@cgu.edu

APPENDICES



APPENDIX 1

LSAMP Activities

HOUSTON-LSAMP

HLSAMP.UH.EDU

LEADERSHIP

Co-PI & Executive Director
Craig Cassidy
ccassidy@uh.edu

Co-PIs
John Bear
jbear@uh.edu

Bobby L. Wilson
Wilson_BL@TSU.edu

UNIVERSITY OF HOUSTON
De'Anza Johnson
Djohns12@uh.edu

UNIVERSITY OF HOUSTON-
DOWNTOWN
Richard Alo
Ralo@uhd.edu

TEXAS STATE UNIVERSITY-SAN
MARCOS
Susan Romanella
Sr23@txstate.edu

TEXAS SOUTHERN UNIVERSITY
Michelle Tolbert
Tolbert_ym@tsu.edu

HOUSTON COMMUNITY COLLEGE
Bart Sheinberg
Sheinberg@hccs.edu

SAN JACINTO COMMUNITY
COLLEGE
Sharon Sledge
Sharon.sledge@sjcd.edu



Every year, NASA accepts hundreds of submissions from student groups around the nation. The best fourteen proposals are invited to test their projects on NASA's facilities where they can take advantage of state of the art equipment. H-LSAMP students from Texas State University were among the winners. This honor reflects the hard work and genuine dedication of the group led by H-LSAMP scholar and Texas State University

electrical engineering student, Christina Vasquez. Vasquez founded the Austin Space Aces group in 2006 and has been making headway as the leader ever since. Nathan Robson (H-LSAMP scholar, electrical engineering major at Texas State) and Mark Prado (electrical engineering major at Texas State) helped develop the research and served on the flight team during the Houston experiment.



Renu Khator: Chancellor of the University of Houston System, and President of the University of Houston is in her second year as PI of the Houston-Louis Stokes Alliance for Minority Participation.



Araly Barrera was an LSAMP student at UHD and is a BD scholar at UH She is the recipient of an NSF Graduate Research Fellowship supporting her work in Computer Science which she will present in Taipei in early 2011.



Houston area high school students are learning how to launch a weather balloon to study pollution in the city of Houston. Their data will be included in an online database for scientists to use for their research.

H-LSAMP IMPACT

DISCIPLINE	H-LSAMP	NATIONAL
Chemistry	133%	25%
Computer Science	14%	9%
Engineering	166%	29%
Geosciences	60%	66%
Life/Biological Sciences	45%	49%
Mathematics	29%	28%
Physics/Astronomy	275%	46%
Total All Disciplines	69%	34%

Comparison of H-LSAMP UREP STEM Degrees during 1998-1999 vs. all LSAMP programs over the same funding period excluding H-LSAMP.

COMMUNITY COLLEGES:

San Jacinto College not only involves its students in research, and runs a robotics summer camp, but they now run PLTL workshops.

Houston Community College has established the West Houston Science Center, and has leveraged LSAMP and Homeland Security to provide research and financial support for undergraduates.

HIGH SCHOOL OUTREACH:

H-LSAMP connections have raised over \$30,000 in funds from outside sources to do active recruiting.

ELEMENTARY AND MIDDLE SCHOOL OUTREACH:

H-LSAMP has partnerships and linked programs such as Globe, the Bernard Harris Summer Camp and over 50 other programs into a unified recruitment pipeline.

STUDENT RESEARCH:

Along with national conferences, students in H-LSAMP have published peer reviewed papers in engineering, chemistry, physics, biology, and computer sciences.

STRUCTURAL CHANGES:

H-LSAMP institutions have dedicated space for the H-LSAMP program. These include the SEP building at UH, the CLC at Texas State, the SA at UHD, and the H-LSAMP lab at TSU.

OUTCOMES:

9,152 UREP STEM Degrees

~50% of level one students go to graduate or professional school



Above: The Houston-Louis Stokes Alliance for Minority Participation has had long lasting impact on its partner institutions. Students such as Nick (top left) not only won national

recognition with organizations such as MEAS, but have moved into the PhD with help from the BD program. Students have learned they can push themselves further than expected, such as

in the obstacle challenge they face at Texas State. Students have learned to give back, such as the work done with the Harris Summer Camp for minority middle school students.



The University of Houston is the 2nd most ethnically diverse research university in the country. It represents over 4 million Southeast Texas residents of its true minority-majority population (38.2% Hispanic / Latino, 20% Black / African American). With over 108 baccalaureate, 131 masters, and 53 doctoral programs it is the 23rd largest public university in the country.



Iride Vanessa Gramajo-Lazo
BS: Mathematics
University of Houston-Downtown
Currently: University of Houston Mathematics Graduate Program
Goal: Professoriate

"GETTING TO KNOW AND WORK WITH MY PROFESSORS HAS INSPIRED ME TO WANT TO TEACH AND DO RESEARCH."
LOPEZ



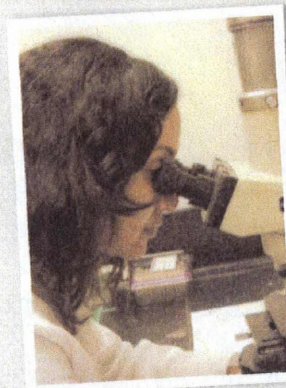
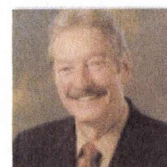
Chelsea Harris
BS: Chemistry
Texas Southern University
Currently: University of Houston Chemistry Graduate Program
Goal: Teaching

"WE'RE THERE TO MAKE SURE THESE FOLKS AND THEIR DETAILS AREN'T OVERLOOKED AND TO GET THEM ACCLIMATED TO THE CULTURE OF SCIENCE AND RESEARCH."
PETTITT-BD MENTOR



Kaisha Fields
BS: Physics
Dillard University
University of Houston, Environmental Engineering Masters Program
Goal: Teaching

"HAVING GRADUATE PROGRAMS THAT BETTER REFLECT THE DIVERSITY OF TEXAS IS AN ESSENTIAL PART OF UH REACHING TIER ONE STATUS" - JOHN L. BEAR DEAN-COLLEGE OF NATURAL SCIENCES AND MATHEMATICS



KIM ANTHONY

BS: BIOLOGY
LOUISIANA STATE UNIVERSITY
CURRENTLY: UNIVERSITY OF HOUSTON BIOCHEMISTRY PHD PROGRAM
GOAL: RESEARCH



JOSE MANUEL LOPEZ

BS: MATHEMATICS
UNIVERSITY OF UNIVERSITY
CURRENTLY: UNIVERSITY OF HOUSTON MATHEMATICS GRADUATE PROGRAM
CAREER GOAL: TEACHING & RESEARCH



ARALY BARRERA

BS: COMPUTER SCIENCE
UNIVERSITY OF HOUSTON-DOWNTOWN
CURRENTLY: UNIVERSITY OF HOUSTON COMPUTER SCIENCE PHD PROGRAM
CAREER GOAL: CONSIDERING THE PROFESSORiate

214 SCIENCE AND RESEARCH BUILDING 1
HOUSTON, TX 77204
713-743-9220
CASSIDY@UH.EDU
EXECUTIVE DIRECTOR





APPENDIX 2

Texas Southern University Site Visit Presentation and LSAMP Activities Summary

APPENDIX 2



Texas Southern University
3100 Cleburne Street
Houston, Texas 77004

FLAGSHIP OF SUCCESS: A REPORT ON THE ACHIEVEMENTS OF THE TSU- LSAMP PROGRAM

By

Dr. Bobby Wilson, Director
Dr. Willie Taylor, Co-Director
Ms. Michelle Tolbert, Program Coordinator
Revised: July 13, 2011

The Louis Stokes Alliance for Minority Participation program at Texas Southern University is a merit-based program whose primary goal is to recruit academically talented students who wish to pursue an undergraduate degree in the fields of science, technology, engineering and mathematics. Students eligible for the program meet the National Science Foundation criteria in terms of their GPA, SAT/ACT, and class rank; they are awarded scholarships. Texas Southern University matches the scholarship monies as required by the National Science Foundation.

The retention paradigm established by Dr. Bobby Wilson, L. Lloyd Woods Distinguished Professor of Chemistry and Shell Oil Endowed Chair of Toxicology, and campus director and PI of the grant, has been successful. The holistic approach of mentoring, tutorials, workshops in the disciplines, internships, professional conferences, peer mentoring, and academic progress monitoring has been effective as can be seen in the students' GPAs and graduation rates since the program's inception in the fall of 2000.

The TSU Louis Stokes Alliance for Minority Participation Program has earned the right to be proud of the accomplishments of graduates in the program since the first cohort entered in the fall of 2000. To date, 177 students have earned undergraduate degrees in the program. In addition to the graduates in STEM fields, seventeen students graduated who began as LSAMP scholars but changed their majors to non-STEM disciplines. One graduate of the LSAMP program was the first student to earn a degree in the newly established MS degree in the computer science program.

Honors Graduates of LSAMP Program

45% of 177 LSAMP Scholars have graduated with honors as of May 2011.

10 Summa Cum Laude
19 Magna Cum Laude
50 Cum Laude

Degrees Earned By Major

55 chemistry
40 computer science
53 mathematics

- 2 physics
- 6 biology
- 2 engineering technology
- 19 (other non-stem majors)

The success of the program can be measured by LSAMP graduates who are pursuing graduate and professional degrees in their discipline. A few of the exceptional students who are now in graduate school or have finished a graduate degree program are as follows:

Master Degrees Conferred- (LSAMP Graduates)

1. Jacina Reddin – MS in Chemistry – University of Florida – December 2010
2. Nchekwube Mbamalu – MS in Geosciences – Louisiana State University August 2010
3. Kevin McDaniels – MS in Chemistry – Kansas State University - December 2009
4. Tisha Daniels – MS in Computer Science – Texas Southern University - May 2009
5. Latrice Living-House – MS in Computer Science - Texas Southern University- May 2009
6. Rheaa Arscott – MS in Public Administration –Texas Southern University - May 2009
7. William Bryant – MS in Statistics - Rice University - May 2008
8. Cliff Robinson – MS in Computer Science – Purdue University - May 2008
9. Cherie Lee – MS in Geosciences - Louisiana State University - August 2007
10. Aisha Hunte – MS in Physics – San Francisco State University - December 2007
11. Alicia Martin – MS in Mathematics Education – University of Houston-Clear Lake - December 2007
12. Edwin Cuc – MS in Computer Science – Texas Southern University – May 2007
13. Biniam Kinfe – MS in Mathematics - Texas Southern University – December 2006
14. Shanni Herrington - MS in Bioinformatics – University of Wisconsin-Madison - May 2006
15. Evita Berry-Hollis – MS in Mathematics – Texas Southern University - May 2003

Masters Degree Programs Currently Enrolled

1. Jessica Poole – Texas Southern University – Mathematics Program - (1st year)
2. Steven Harris – Texas Southern University – Mathematics Program (2nd year)
3. Rochelle Johnson – University of Houston MBA Program – Mathematics Program – (Fall 2011)
4. Tera Slone – Texas Southern University – Chemistry Program - (1st year)
5. Mark Williams – Syracuse University – MBA Program (2nd year)
6. Edidiong Obot – Texas Southern University – Environmental Toxicology Program - (3rd year)
7. Amanda Henry – Texas Southern University – Biology Program - (2nd year)
8. Kanetra Moses – University of Houston – Geophysics Program - (2nd year)

Professional School Graduates

1. Marjuana Bush – South Texas College of Law, Doctor of Juris Prudence May 2009
2. Nytarsha Brown – College of Optometry, Penn State University, Doctor of Optometry – May 2011
3. Tara Gainey Meharry Dental School – Doctor of Dental Surgery. May 2011
4. Alise North – Howard University, College of Pharmacy – Doctor of Pharmacy, May 2011
5. Frank North – Texas Southern University, College of Pharmacy & Health Science, Doctor of Pharmacy, May 2011

6. Alexis Stephens – College of Osteopathic Medicine – Doctor of Osteopathic Medicine – June 2011
7. Shayla Thomas- Texas Southern University – College of Pharmacy & Health Science May 2011

Professional Schools Enrolled

1. Desmond Adamu - Meharry Medical School - (3rd year- Fall 2011)
2. Lance Harris – University of Texas Medical School – Houston , Texas - (4th year- Fall 2011)
3. Helen Ubanyionwu – College of Pharmacy and Health Science – Texas Southern University - (3rd year- Fall 2011)
4. Samuel Ubanyionwu – College of Pharmacy and Health Science – Texas Southern University - (2nd year – Fall 2011)

Ph.D. LSAMP Graduates

Ms. Dvesharronne Moore will receive her Ph.D. from Texas A&M University in Cardiovascular Chemistry, May 2011. Ms. Moore was recruited in the 3rd cohort of the LSAMP program in 2002. Ms. Moore received her Bachelor's in chemistry with honors from Texas Southern University. High School Recruited from: Michael E. DeBakey High School for Health Professions in Houston, Texas.

Ms. Alicia Martin – received her Ph.D. in Mathematics Education, University of Houston Clear Lake, May 2010. Recruited in the 2nd cohort, graduated Summa Cum Laude, Texas Southern University

Ms. Katoria Tatum Gibbs recruited in the 1st cohort of LSAMP students in fall 2000 graduated in chemistry 2004 with honors and received her Ph.D. in Environmental Toxicology –Texas Southern University, December 2007. She finished the Ph.D. in 3 and ½ years. High School Recruited from: Worthing High School, Houston, Texas

PH.D Programs Currently Enrolled

1. Siobhan Tarver - Texas Southern University – Environmental Toxicology Program - (4th year) – Fellowship stipend support provided
2. Ashley Guillory – University of Houston – Pharmaceutical Science - (4th year) Fellowship stipend support provided.
3. Damien Terry – Texas A&M University – Biomedical Chemistry – (2nd year) - Fellowship stipend support provided.
4. Darolyn Flaggs - Texas State University- Mathematics Education (2nd year)
5. William Bryant – University of Texas School of Public Health – Health Informatics - (1st year) – Fellowship stipend support provided.
6. Chelsea Harris – Texas A&M University – Biomedical Chemistry (1st year) – Fellowship stipend support provided.
7. Lindsey Scott – Texas Southern University – Environmental Toxicology Program (1st year) – Fellowship stipend support provided.
8. Kristina Casmire – Texas Southern University- Environmental Toxicology Program – (1st year) – Fellowship stipend support provided.

PH.D. Programs Admitted for Fall 2011

RaiAnna Arscott – Oklahoma State University, Ph.D. program in Chemistry, full fellowship funding for tuition fees and stipend support. Also Ms. Arscott will graduate in May 2011 as is one

of the youngest graduates of the program at 19. She also had a sibling who finished in the LSAMP program and finished at 19, Ms. Rhea Arscott.

Matthew Minus – Rice University, Ph.D. program in Chemistry; full fellowship funding for tuition fees and stipend support.

Texas is the only state with three LSAMP programs and Texas Southern University is a major part of the Houston LSAMP, which continues to serve as a national model for all 58 programs. Evaluators and the National Science Foundation continually praise the efforts of the TSU LSAMP program and its students for their remarkable achievements academically and in scientific competitions.

The LSAMP program is a National Science Foundation initiative that addresses the nation's shortage of minorities in STEM Disciplines in the United States. By increasing the number of graduates with degrees in STEM fields, it also is designed to play a vital role in producing and securing the scientific and technological infrastructure that protects the sovereignty of the United States of America.

APPENDIX 2



Texas Southern University
3100 Cleburne Street
Houston, Texas 77004

A REPORT ON THE ACHIEVEMENTS OF THE LSAMP PROGRAM IN MATHEMATICS July 14, 2011

The Louis Stokes Alliance for Minority Participation program at Texas Southern University is a merit-based program whose primary goal is to recruit academically talented students who wish to pursue an undergraduate degree in the fields of science, technology, engineering, or mathematics. Student's eligible for the program meet the National Science Foundation criteria in terms of GPA, SAT/ACT scores and senior class rank; they are awarded scholarships. Texas Southern University matches the scholarship amounts as required by the National Science Foundation. Applicants must be U.S. citizens or permanent residents. The only four majors supported are chemistry, computer science, mathematics and physics.

The first cohort entered the university in the fall of 2000. Currently we are in PHASE III or typically known as the Senior Alliance funding. We have completed 12 years in the program and are in the current period for PHASE III going into year thirteen of the grant for fall 2011- spring 2012.

Currently fifty students receive direct support from LSAMP and TSU state matching funds. The TSU Louis Stokes Alliance for Minority Participation program has earned the right to be proud of the accomplishments of all graduates in the program since the program's inception in the fall of 2000. To date, 177 students have earned undergraduate degrees in the program.

The mathematics department has benefited tremendously from the LSAMP program and its selective recruitment strategies of increasing the number of students majoring in mathematics. Fifty three (53) LSAMP scholars have graduated with a bachelor's degree in Mathematics since the program's inception in the fall of 2000.

Out of the 53 LSAMP mathematics majors who graduated 58% graduated with honors: summa cum laude, magna cum laude or cum laude. These students are denoted by the diamond asterisk by their names. Congratulations!


LSAMP MATHEMATICS GRADUATES

- Ansley, Aaron
- Baltimore, Dalton
- Boutte, Ronald
- ❖ Brannon, Roderick
- Bruton-Haynes, Nadaushia
- ❖ Bryant, William


- ❖ Cervantes, Noe
Cockrell, Bresean
- ❖ Daniels, Tisha
- ❖ Flaggs, Darolyn
- ❖ Garcia, Bereneice

- ❖ Georgetown, Brandon
- ❖ Harris, Bettina
- ❖ Harris, Chelsea
- ❖ Harris, Lance
- ❖ Harris, Steven
- Hines, Laquisha
- ❖ Hollis, Evita Berry
- ❖ House-Living, Latrice
- Johnson, Rochelle
- ❖ Kinfe, Biniam
- ❖ Lander, Mia
- ❖ Law, Dawn
- ❖ Laynez, Felipe
- ❖ Lee, Cherie
- ❖ Lewis, Brittany
- Little, Charmaine
- Lopez, Alejandra
- ❖ Martin, Alicia
- ❖ May, Lakesha
- ❖ Mayorga, Reyna
- ❖ Mbamalu, Nchekwube
- ❖ Mendez, Leticia
- Mikell, Brandon
- Mikell, Diondre
- ❖ Moses, Kanetra
- ❖ Nevado, Maada
- Norman, Krystal
- ❖ Perez, Lorie
- ❖ Poole, Jessica
- ❖ Ramirez, Lizette
- Rodriquez, Jesse
- ❖ Romano, Cynthia
- Simmons, Michael
- ❖ Smith, Reba
- ❖ Solarie, Ian
- Taylor, Langston
- ❖ White, Andre
- Wiley, Joshua
- Williams, Mark
- Williams, Michael
- Williams, Weston
- Young, Shameka

Currently LSAMP Mathematics Scholars Enrolled for Fall 2011





Bogany, Kayla
Chaney, Charlise
Coleman, Kenyon
Galentine, Mahoganye
Lofters, Raven
Muhammad, Ruqiah
Sabree, Aqeeb
Turner, Olivia




TEXAS SOUTHERN UNIVERSITY

Houston Louis Stokes Alliance for
Minority Participation
Evaluators Site Visit
February 9, 2011





Louis Stokes Alliance for Minority Participation



RECRUITMENT


Louis Stokes Alliance for Minority Participation



RECRUITMENT

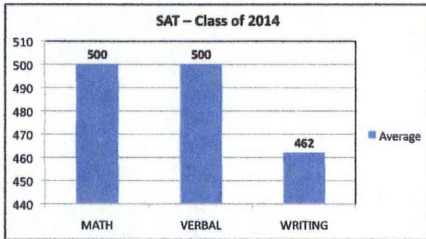
- Strategic Marketing Focus
- Visual Teleconferencing
- Nationwide Recruitment
- Community College Recruitment- Facilitate transfer of students with Associate Degrees in STEM fields
- Hispanic Recruitment- Quadruple the number of Hispanic Scholars in program
- National Database of High Performing Schools in the United States
- Massive mail out to high school counselors
- Schedule visits to high schools

Louis Stokes Alliance for Minority Participation




Recruitment
Summer Bridge Program 2010
July 6, 2010 – August 8, 2010

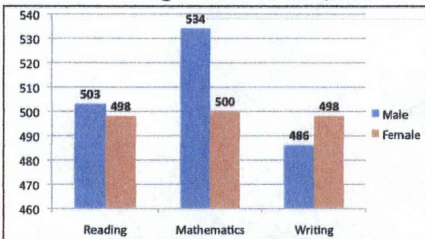
SAT – Class of 2014



Subject	Score
MATH	500
VERBAL	500
WRITING	462




Recruitment
Texas SAT Scores
College-Bound Seniors, 2010



Subject	Male	Female
Reading	503	498
Mathematics	534	500
Writing	486	498

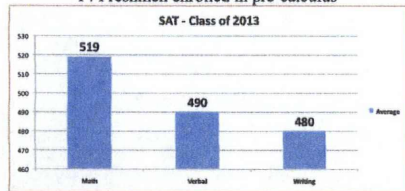
www.collegeboard.com



Recruitment
Summer Bridge Program 2009
July 5, 2009 – August 5, 2009

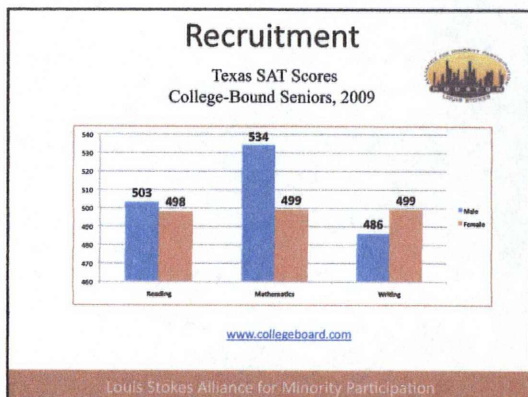
14 Freshmen enrolled in pre-calculus

SAT - Class of 2013



Subject	Score
Math	519
Verbal	490
Writing	480

Louis Stokes Alliance for Minority Participation



Recruitment

Average GPA Freshman Class of 2014
3.50

Average GPA Freshman Class of 2013
3.50

Average GPA Freshman Class of 2012
3.85

Louis Stokes Alliance for Minority Participation

Recruitment

Incoming Freshman Profile
Class of 2014

14 Students Recruited for Fall 2011

- 1 Student – Valedictorian
- 3 Students – Salutatorians
- Remainder Ranked top 10% - 15%
- 9 Chemistry Majors
- 3 Computer Science
- 2 Math

Louis Stokes Alliance for Minority Participation

Recruitment

Incoming Freshman Profile
Class of 2013

16 Students Recruited for Fall 2010

- 4 Students – Salutatorians
- Remainder Ranked top 10% - 15%
- Recruited 4 Physics Majors
- 2 Double majors in Mathematics/Physics
- 2 Computer Science
- 8 Chemistry

Louis Stokes Alliance for Minority Participation

Retention

Programs that enhance retention rates:

- Peer and professional mentors
- Weekly workshops in each discipline
- Collaborative Learning Center
- Mandatory tutorials
- Mentoring by Eminent Faculty Members in STEM Fields

Louis Stokes Alliance for Minority Participation

MASTER TEACHERS

Outstanding Faculty Involved with
LSAMP

- Dr. Willie Taylor
- Dr. Roderick Holmes
- Dr. Robert Nehs
- Dr. Joan Evans
- Dr. Victor Obot
- Dr. John Sapp
- Dr. Renard Thomas
- Dr. Robert Ford
- Dr. Khalid Kamel
- Dr. Carlos Handy
- Dr. Walter McCoy
- Dr. Henry North
- Mr. Peter Thornton

Louis Stokes Alliance for Minority Participation

Louis Stokes Alliance for Minority Participation

MARKETING




Louis Stokes Alliance for Minority Participation

Marketing

- LSAMP Brochures
- Bumper Stickers
- Shirts
- Pens
- Mail outs
- Visiting High School Campuses
- Meeting with Senior Counselors and College Bound Counselors
- LSAMP Scholar featured on I-10 Billboard

Louis Stokes Alliance for Minority Participation


Enrollment




Louis Stokes Alliance for Minority Participation

Enrollment

58 LSAMP Scholars Currently Enrolled




Louis Stokes Alliance for Minority Participation



Internships

LSAMP scholars are encouraged to participate in summer research opportunities throughout the nation. The following students have been accepted to 2010 summer research experience:

Jerald Watley- University of Chicago Materials Research Center (MRSEC) and the Department of Physics Summer 2010 Research Experience for Undergraduates – Intensive ten week research project: PAID \$4500.00 for 10 weeks, travel allowance of \$500.00 and live on resident campus housing.

Stephanie Curry – Rice University Alliance for Graduate Education and the Professoriate (AGEP) Program - 10 week summer internship, PAID: \$3,500 for 10 weeks, housing provide.

Samantha Everett – U. S. Nuclear Regulatory Commission (NMRC) as a Student Engineer STEP 10 Salary at \$43,884 or \$21.03 per hour in the Division of Nuclear Materials Safety.

Louis Stokes Alliance for Minority Participation

Internships



Nelson Guerrero – Rutgers University, Command Control Interoperability Center for Advanced Data Analysis in the Research Experience for Undergraduates: Paid \$5,400.00 for 10 weeks, travel allowance, resident housing provided.


Mia Lander – Louisiana State University, Mathematical Research Experience for Undergraduates, - PAID \$3,200.00 for six weeks, travel allowance, and housing provided.

Michael Smith – National Oceanic and Atmospheric Administration (NOAA) 10-week summer Educational Partnership Program: PAID \$5,000.00, travel allowance, and housing provided.

Jerald Wadley- National Oceanic and Atmospheric Administration (NOAA) 10-week summer Educational Partnership Program: PAID \$5,000.00, travel allowance, and housing provided.

Louis Stokes Alliance for Minority Participation

Internships



Rasheedat Ipaye – Drexel University- SENROS: From Design to Implementation for 2010. PAID: \$4500.00 for 10 weeks, travel allowance, and housing provided.


Pamela Mbonu – Texas A&M University, College Station, - NSF REU Program on Imaging and Biomarkers, PAID : \$4,500 for 10 weeks, travel allowance, and housing provided.

Maria Williams – University of Arkansas – Department of Chemistry and Biochemistry REU Program. – PAID \$5,100.00 for 10 weeks, travel allowance , and campus housing provided.

Cedric Koumau – University of North Texas Health Science Center, Ronald E. McNair Post Baccalaureate Achievement Program - PAID \$2,800.00 for six weeks, (3 credit hours earned) housing at SpringHill Suites by Marriott and travel reimbursement.

Louis Stokes Alliance for Minority Participation

Internships



Kyle Thomas – University of Arkansas REU Program in Department of Chemistry and Biochemistry, PAID \$5,100.00 for 10 weeks, travel allowance, on campus housing provided.

Kyle Thomas – Wakeforest University Excellence in Cardiovascular Sciences Summer Research program, PAID \$3,200.00 for 10 weeks, travel allowance, and housing provided.

Ruqiah Muhammad – Percy Julian Fellowship Summer 2010 Undergraduate Research Experience – University of Maryland, College Park, PAID: \$3,000.00 – 10 week summer research, travel allowance, and housing provided.

Osman Ahmed – Texas A&M University, Corpus Christi, NSF REU Research Experience for Undergraduates – Department of Computer Science , PAID: \$5,000.00 – 10 week summer, Travel allowance, and housing provided.

Pamela Mbonu – University of Houston Alliance for Graduate Education and the Professoriate (AGEP) Summer 2010 Research Experience – 10-week summer experience, PAID: \$4,000.00, travel allowance and housing provided.

Louis Stokes Alliance for Minority Participation

Conferences



Louis Stokes Alliance for Minority Participation

Conferences

The 37th National Organization for the Professional Advancement of Black Chemists and Chemical Engineers Conference March 29 – April 2, 2010 in Atlanta, Georgia
LSAMP Scholar Aqeeb Sabree and Ruqiah Muhammad helped with Recruitment and Exhibit and conference.
Dr. Wilson is the Executive Board Chairman of NOBCChE.

Minority Access Eleventh National Role Models Conference, September 10-12, 2010 in Las Vegas, Nevada,
LSAMP Scholars Pamela Mbonu and Kiara Taylor was accompanied by Dr. Wilson and Ms. Michelle Tolbert

2010 SACNAS Conference National Conference, September 30-October 3, 2010 in Anaheim, California, LSAMP student Rianna Arcsott and Tierra Johnson was accompanied by Dr. Wilson and Ms. Michelle Tolbert

Math Fest 2010 Conference, November 18-20, 2010 in Miami, Florida, Andre White, Ruqiah Muhammad, and Aqeeb Sabree presented at the conference. Dr. Roderick Holmes and Dr. Joan Evans accompanied the students.
LSAMP scholars received Honorable Mention

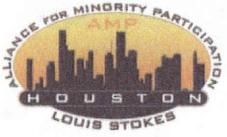
Louis Stokes Alliance for Minority Participation

Conferences

Poster on the Hill for LSAMP Program. LSAMP Scholar, Andre White presented for Texas Southern University in Washington, D.C. in July, 2010.

Louis Stokes Alliance for Minority Participation

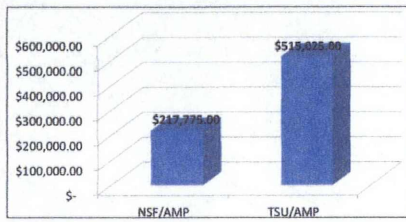
Funding



Louis Stokes Alliance for Minority Participation

Funding

STIPEND SUPPORT LSAMP STUDENTS
OCTOBER 2009- FEBRUARY 2011
PHASE III FUNDING




Organization	Funding Amount
NSF/AMP	\$247,979.00
TSU/AMP	\$515,025.00



AWARDS

Texas Space Grant Consortium
Columbia Crew Memorial
Scholarships
2010-2011
\$1,000 Awards
Kiara Taylor
Pamela Mbonu
Micheal Smith


Louis Stokes Alliance for Minority Participation



AWARDS


Texas Space Grant Consortium
Columbia Crew Memorial
Scholarships
2009-2010
\$1,000 Awards
Mia Lander
Micheal Smith
Kyle Thomas
Samuel Ubanyionwu

Louis Stokes Alliance for Minority Participation



Measured Outcomes

Louis Stokes Alliance for Minority Participation



THE LSAMP IMPACT

The Solution to America's Shortage
of Individuals in STEM Fields.

Louis Stokes Alliance for Minority Participation

LSAMP Graduates Fills the Critical Shortage of STEM Teachers in Houston, Texas and Surrounding Areas



THE LSAMP IMPACT

Roderick Brannon – Mathematics, *Sterling High School* – Magna Cum Laude
 Lorie Perez – Mathematics, *Barbara Jordan High School* – Summa Cum Laude
 Lizette Ramirez – Mathematics, *Chavez High School* – Magna Cum Laude
 Dawn Law – Mathematics, *Milby High School*, Cum Laude
 Matthew Minus – Chemistry, Cum Laude, *North Forest ISD*
 Ashley Garner – Chemistry, *Worthing High School*
 Andrea White – Chemistry, *Lamar Consolidated High School*
 Alicia Martin – Mathematics, *North Forest ISD* – Summa Cum Laude

Louis Stokes Alliance for Minority Participation

LSAMP Graduates' Fills the Critical Shortage of STEM Teachers in Houston, Texas and Surrounding Areas



THE LSAMP IMPACT

Erica Brown – Computer Science/switched to Elementary Education, *Hartsfield Elementary School*
 Nadaushia Haynes Bruton – Mathematics, *Clear Lake ISD*
 Cynthia Romano – Mathematics, *Channelview ISD* – Magna Cum Laude
 Aaron Ansley – Mathematics, *Westbury High School*
 Diondre Mikell – Mathematics, *Worthing High School*
 Joseph Randle – Computer Science, *Forestbrook High School*
 Tera Slone – Chemistry, *Deer Park ISD*

Louis Stokes Alliance for Minority Participation

LSAMP Graduates' Fills the Critical Shortage of STEM Teachers in Houston, Texas and Surrounding Areas



THE LSAMP IMPACT

Ian Solarie – Mathematics, *Sam Houston High School*
 Evita Berry-Hollis-Mathematics, *North Forest ISD* - Cum Laude
 Ashley Howard – Chemistry, *Pasadena Memorial High School*
 Michael Simmons – Mathematics, *Furr High School*
 Dalton Baltimore – Mathematics, *C-STEM Jack Yates High School*
 Brittany Lewis – Mathematics, *C-STEM Jack Yates High School*, Cum Laude
 Shelly Smith-Woods, Computer Science, *C-STEM Jack Yates High School*

Louis Stokes Alliance for Minority Participation

LSAMP Graduates' Fills the Critical Shortage of STEM Teachers in Houston, Texas and Surrounding Areas



THE LSAMP IMPACT

Leticia Mendez – Mathematics, *Milby High School* – Cum Laude
 Felipe Laynez - Mathematics, *Ortiz Middle School* - Cum Laude
 Matthew Minus – Chemistry, *Alief ISD*, *Magna Cum Laude*

Louis Stokes Alliance for Minority Participation



Master Degrees Conferred

Jacina Redden – Master in Chemistry, University of Florida, December 2010
 Nchekwube Mbamalu – Master in Geoscience, Louisiana State University, August 2010
 Kevin McDaniels - Master in Chemistry, Kansas State University, December 2009
 Latisha Dainels, Master in Computer Science, Texas Southern University, May 2009
 Rhea Arcsott, Master in Public Administration, Texas Southern University, May 2009
 William Bryant - Master in Statistics – Rice University- May 2008
 Shanni Herrington – Masters in Bioinformatics Science – University of Wisconsin-Madison, May 2008
 Cliff Robinson, Master in Computer Science, Purdue University, May 2009
 Latrice House- Masters in Computer Science – Texas Southern University, May 2008
 Cherie Lee – Master in Geosciences, Louisiana State University - August 2007
 Aisha Hunte – Master in Physics- San Francisco State University – December 2007

Louis Stokes Alliance for Minority Participation



Master Degrees Conferred

Alicia Martin – Master in Mathematics Education - University of Houston Clearlake, December 2007
 Edwin Cuc- Master in Computer Science, Texas Southern University, May 2007
 Biniam Kinfe – Masters in Mathematics –Texas Southern University, December 2006
 Evita Berry-Hollis, Master in Mathematics –Texas Southern University, May 2003

Louis Stokes Alliance for Minority Participation


CURRENTLY ENROLLED IN A MASTERS PROGRAM

Jessica Poole, 1st year in mathematics program, Prairie View A&M University, Spring 2011

Mark Williams, 1st year in MBA program, Syracuse University, Fall 2010

Amanda Henry- 2nd year enrolled in biology program, Texas Southern University, Fall 2009

Rochelle Johnson - 2nd year enrolled in mathematics program, Texas Southern University, Fall 2009.



Louis Stokes Alliance for Minority Participation

LSAMP Filling the Need for Minority Ph.D. Candidates in STEM Fields



Dvesharrone Moore – 5th Year –Texas A&M University- Cardiovascular Chemistry, enrolled Fall 2006

Ashley Gullory – 4th year, University of Houston- Pharmaceutical Science, enrolled Fall 2007

Damien Terry, 2nd year, Texas A&M University, Biochemistry, enrolled Fall 2009

Chelsea Harris, 1st year, Texas A&M University, Biochemistry enrolled Fall 2010

William Bryant, 1st year, University of Texas Health Science Center, Biostatistics and Public Health enrolled Fall 2010

Louis Stokes Alliance for Minority Participation

LSAMP Filling the Need for Minority Ph.D. Candidates in STEM Fields



Lindsay Scott – 1st year, Texas Southern University Environmental Toxicology, enrolled Fall 2010


Kristina Casmire – 1st year, Texas Southern University, Environmental Toxicology, enrolled Fall 2010

Darolynn Flagg – 1st year, Texas State University, Mathematics Education, enrolled Fall 2010

Brandon Georgetown – 1st year, Tuskegee University, Mechanical Engineering, enrolled Fall 2010

Louis Stokes Alliance for Minority Participation

Scholars Enrolled in Professional Schools



Desmond Adamu – MeHarry Medical School, 3rd year

Tara Galney – MeHarry Dental School, DDS

Marjuana Bush - South Texas College of Law, JD

Nytarsha Brown – Penn State University College of Optometry Optometrist

Alexis Stephens - College of Osteopathic Medicine, Las Vegas, Nevada, MD.

Lance Harris – 3rd year University of Texas Health Science Center

Shayla Thomas- College of Pharmacy and Health Science, Texas Southern University, 5th year, graduating May 2011

Louis Stokes Alliance for Minority Participation


Scholars Enrolled in Professional Schools

Frank North, Texas Southern University, College of Pharmacy and Health Science, 5th year, graduating May 2011

Alise North, Howard University, College of Pharmacy and Health Science, 5th year, graduating May 2011

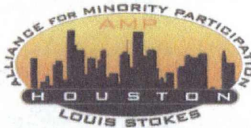
Helen Ubanyionwu, Texas Southern University, College of Pharmacy and Health Science, 2nd year

Samuel Ubanyionwu, Texas Southern University, College of Pharmacy and Health Science, 1st year




Louis Stokes Alliance for Minority Participation

Graduation Data



Louis Stokes Alliance for Minority Participation

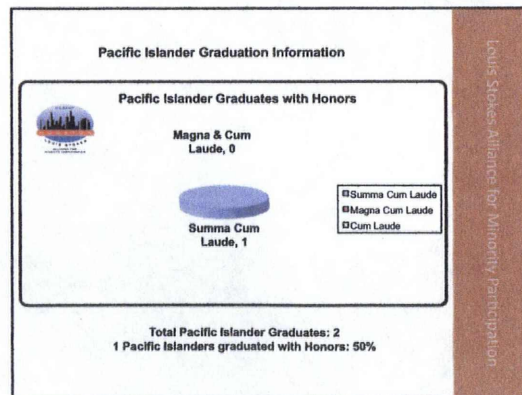
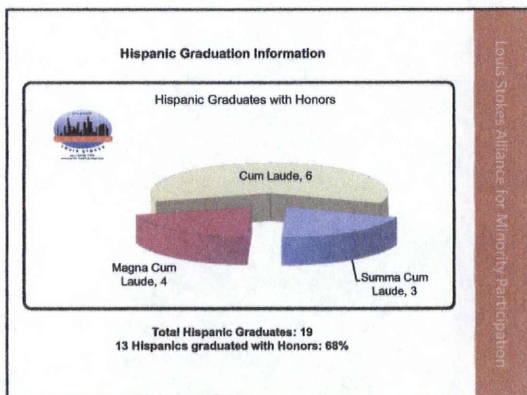
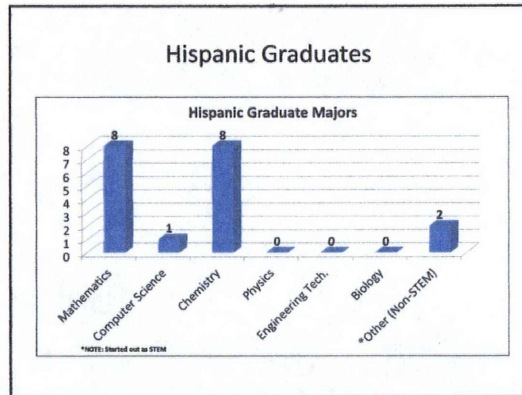
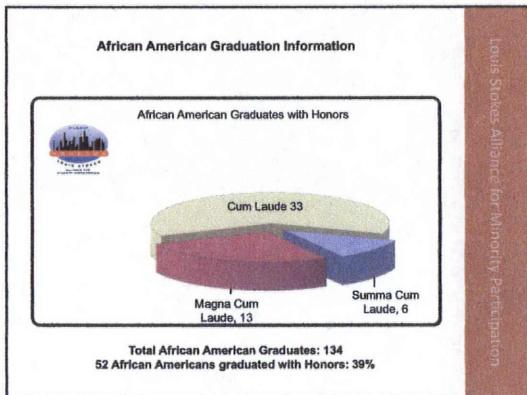
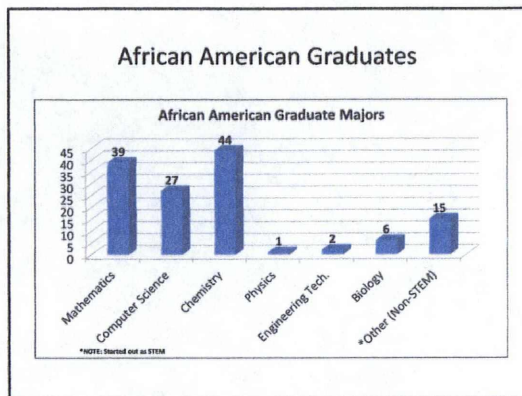


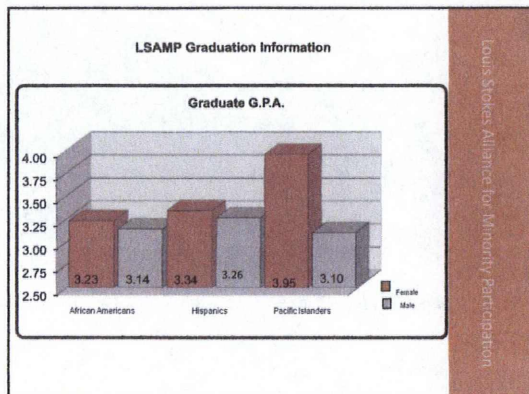
Graduation Data

Honors Graduates of LSAMP Program
 42% of 155 LSAMP scholars have graduated with honors:
 10 Summa Cum Laude
 17 Magna Cum Laude
 39 Cum Laude

Degrees Earned By Major
 47 chemistry
 38 computer science
 44 mathematics
 6 biology
 2 engineering technology
 18 (other non-stem majors)
 1 physics

Louis Stokes Alliance for Minority Participation





OUTREACH INITIATIVES

Louis Stokes Alliance for Minority Participation

Community Service

STEM-ULATING COLLEGE FOR A DAY

SHAPE Community Center

Houston Food Bank

Share Your Christmas Channel 13 Food Drive

Tutorials (ongoing with inner city kids at risk)

Louis Stokes Alliance for Minority Participation

Louis Stokes Alliance for Minority Participation

LSAMP LEADERSHIP

Bobby Wilson, Ph.D.
 Co-Principal Investigator H-LSAMP
 L. Lloyd Woods Distinguished Professor of Chemistry
 Shell Oil Endowed Chair of Environmental Toxicology

Willie Taylor, Ph.D.
 Professor of Mathematics
 Associate Director

Peter Thornton
 Assistant Director, TSU LSAMP

Michelle Tolbert
 TSU LSAMP Program Coordinator/Recruiter

Louis Stokes Alliance for Minority Participation



APPENDIX 3

University of Houston- Downtown Activities Summary

Scholars Academy Status Update for Oct.-Nov. 2010

Overview

The 2010-2011 academic year continues with the SA unit targeting major areas: 1) Recruitment activities; 2) Activities to secure external funding for SA scholarships; 3) Activities supporting high impact experiences for SA UGs including field trips & seminars; and 4) Activities supporting increasing collaborative opportunities and inroads.

Activities Supporting External Funding

October proposal submissions

NRC CE Collaborators: Parker (PI), Grebowicz, Benavides, Feng, Tito-Izquierdo (Co-PIs); Franz, Garcia (SrPer)
Partners: TAMU NUEN, STP NOC, CP NPP, UTHSC GSBS

November proposal collaborations

DOED HSI STEM Collaborators: TBD; Partners: LSCS, UHD, CST, SA

Additional November proposal collaborations

NSF CS21: Collaborators: Parker, Chen, Feng, Garcia; Partners: SA, CyFair ISD, HCCS
DOED DRK12: Collaborators: Verma (UH), Chen, Parker, Garcia (UHD); subawardee only
DOED DRK12: Collaborators: Parker (PI), Chen, Sadana, Jiang, Aoki, Feng (Co-PIs); Garcia (SrPer)
George Sanchez Charter HS: Collaborators: Parker, Matthew Rosas (George Sanchez), (others TBD)
Partners: NS, ET, CMS departments

UHD Office of Community Engagement: CSP Serving to Lead: Connecting to our Community

Grant reports: NSF S-STEM annual report; NSF Noyce annual report

Grant-related workshops attended: Time & Effort Seminar by Carolyn Ivey; USDA Grant Writing 2-Day Workshop held on-campus Nov. 8-9

K-20 Development Council: 3rd meeting of the calendar year held Nov. 8th, Council Initiatives: (see attached); Council members (see attached)

Joint Meeting UHD Advancement: Dr. Larry Spears, Dr. Joanna Wolfe, Dr. Parker, Rene Garcia

New ISD Grant Partnerships: CyFair ISD; Galena Park ISD (tentative)

Activities Supporting Collaborative Initiatives

Meeting with HITECH Health IT Workforce Grants: Dr. Carla Tyson-HCC-Coleman, Dr. James Turley-UTH-SHIS, and Drs. Parker and Chen, and Rene Garcia- meeting Oct. 19th; 2nd Life initiative connecting SA and ISD recruits

Meeting with HISD, UHD, SA: Drs. Flores, Dressman, Parker, and Mr. W. Vela
UHD Public Affairs/SA initiative to produce 9 "gift" bags for HISD Apollo program campuses

Baylor College of Medicine IRACDA Postdoc Seminar Series: 6 seminars; topics surrounding entrance to graduate schools
SA working with CST nominee for **Winter Commencement Speaker**, Katrina Vasquez and UHD Public Affairs, Sue Davis

SA Mock Interviews (first year results): Nov. 15-17; Alumni, BCM postdocs, other Council participants; SA members
33 students interviewed (22% participation); 12 external institution volunteers; 42 hours of interviewing

Meeting with HCCS: Dr. Pino

Activities Supporting SA Recruitment

Meeting with UHD FTIC Admissions: Innovative Initiatives; Providing presentation & material for large group onsite visits

SA Presentations at TACRO College Night Events:

Counselor luncheon presentations: Katy area, Inner loop, 290 area, Fort Bend area

Community college presentations: LSC North Harris, HCC Northwest

ISD College Nights: 8 district-wide HS fairs (Aldine, Alief, Conroe, CyFair, Fort Bend, Katy, Klein; Spring), 7 HISD local HS fairs (Chavez, Lamar, Milby, BT Washington, Waltrip, Westside, DeBakey HSHP), Aldine 9th Grade Center, Caney Creek, Academy for Science & Health; Victory Early College

Additional SA Presentations:

On-campus UHD group visits; joint with UHD Admissions: Madison HS; Houston Can Academy; Kids to College (K2C) Event with Woodson MS

Houston ISD Carnegie Vanguard HS Event Invitation

HCC-Coleman Winter Program

UHD Admissions Open House Event

Additional off-campus presentations/exhibits: Conference for the Advancement of Science Teaching (CAST) (purchased booth); Hispanic Scholarship Foundation Outreach event (presentations & table); Aldine 9th Grade Center (2 events); HISD East Early College; Westside HS

Other Ongoing Recruitment Initiatives:

George Sanchez Charter HS Initiative for Summer STEM Research for 10th, 11th, 12th graders

Development of Adobe Form for electronic SA Application; automated application decreases time for appl screening
Development of Email Letter generated from Access DB obtained from recruitment events

Activities Foundational to SA Support Network

Field Trip & Seminars: Field trips: 15 SA sponsored; Seminars: 8 SA sponsored, 8 NS sponsored, 5 CMS sponsored, and 2 Student Club sponsored

New FT/Seminar Initiatives: TAMU Nuclear Engineering/Nuclear Science program & reactor tour; UH CS tour; TWU Institute of Health Sciences-Houston; UH CS-Dr. Zhang research lab; BJ Services/Baker Hughes-Tomball facilities; 2 BCM IRADCA Research lab tours; GE Betz-the Woodlands facilities tour; NOVA Biologicals-Conroe; BCM Postdoc seminar series (6); Big Thicket National Preserve Field Station

SA Mock Interviews (new annual high-impact initiative to be held each Nov.): Participants included: BCM, Kelly Scientific Resources, TCEQ, Memorial Hermann Hospital, UH Bio Graduate Program, Rice University, HGAC Workforce Solutions

SA Graduate School & Internship Fair: 26 students presented 20 research posters; about 50 exhibitors representing approximately 30 different companies and graduate/internship programs

SA Unit Academic Planning initiated

SA Collaborative member of NS Academic Planning Committee

UHD Regents Nov. meeting: SA/NS Student Research Posters

SA/UHD Nominations Supporting Statewide Undergraduate Research Conference: SA Members: Marlyn Davila and Frances Acevedo (MARC grant students)

Additional SA Sponsored Student Travel: 10 student poster presenters (two won awards) to SACNAS in Anaheim, CA; 13 student presenters at First UBM South Regional Conference held at UHD; 4 students gave oral research presentations at the Regional Undergraduate Chemistry Symposium at Rice University; 6 student poster/oral presenters at NIMBioS in Knoxville, TN; 4 student attendees at CAST in Houston; 8 student poster/oral presenters (four won awards) at ABRCMS in Charlotte, NC.

Houston ROBEC Women's Organization Scholarship: Dr. Lynn Kirkpatrick nominates two SA members for \$500 scholarships; Awardees are: Ashley Bilbrey and Anabel Fay

Activities Foundational to SA Support of Service Learning

About 300 community service hours done through Peer Mentor group activities:

Star of Hope Mission Feeding Program; Star of Hope's Doris and Carlloss Morris Men's Development Center; UHD Ed's Bayou Clean-up; Children's Museum of Houston; Houston Foodbank; Houston Habitat for Humanity; The Beacon Homeless Shelter; Houston "Buddy Walk"; Houston City Hall Thanksgiving Superfeast; Making Christmas cards for patients at MD Anderson; Houston Food Bank



11th Annual
Graduate School and Internship Fair
October 15, 2010 9 am – 12 pm Room A300



Welcome to the 2010 Graduate School and Internship Fair!

The UHD Scholars Academy Graduate School and Internship Fair is an excellent opportunity for students within the College of Sciences and Technology to connect with prospective graduate schools and research/internship programs. Students are strongly encouraged to speak with as many different programs as possible to explore all available opportunities. Good luck and have fun!

Schedule:

- 8:30 - 9:30 am Registration and Check-in
9:30 - 10:30 am Student Poster Session and Breakfast Mixer
10:30 - 12:00 Graduate School and Internship Fair

Represented Programs:

A & B Environmental Laboratories Services

Baylor College of Medicine

Department of Neuroscience
Graduate School of Biomedical Sciences
Graduate Program in Molecular and Human Genetics
Human Genome Sequencing Center
SMART Program: Summer Undergraduate
Research Training

City of Houston – Houston Crime Lab

Gulf Coast Consortia

Interdisciplinary Bioscience Research and Training

Johns Hopkins University

Bloomberg School of Public Health

Kaplan Test Prep and Admissions

Graduate Programs

Rice University

Department of Biochemistry & Cell Biology
Institute of Biosciences & Bioengineering

South Texas Project Nuclear Operating Company

Stephen F. Austin State University

Biotechnology

Texas A & M University Health Science Center

College of Medicine
Department of Biochemistry and Biophysics

Texas Southern University

Graduate School

Universidad Autonoma de Guadalajara

School of Medicine

University of Houston-Central

Admissions and Recruitment, College of Pharmacy
College of Technology

Department of Computer Science
Department of Mathematics
Rice-Houston Alliances for Graduate Education and the
Professoriate (AGEP)

University of Houston-Downtown

Career Services
Masters of Arts in Teaching
M.S. in Professional Writing & Technical Communication

University of Michigan – Ann Arbor

Industrial & Operations Engineering

University of North Texas

Toulouse Graduate School

University of Tennessee – Knoxville

Graduate Programs in Quantitative Biology

University of Texas - MD Anderson Cancer Center

Allied Health Programs; School of Health Professions

University of Texas Health Science Center Houston

School of Biomedical Informatics
The Brown Foundation Institute of Molecular Medicine for
the Prevention of Human Diseases

**University of Texas Health Science Center
at San Antonio**

Graduate School of Biomedical Sciences

University of Texas Medical Branch

Biochemistry and Molecular Biology
School of Health Professions
School of Nursing

University of Texas School of Public Health

Biostatistics
Office of Student Affairs
School of Health Professions - Diagnostic Imaging
Program

There are also tables with about 50 graduate and research opportunities from institutions nationwide that have provided materials for dissemination.

Sponsored by The Brown Foundation, Inc. National Science Foundation (0728408, 0903948);
U.S. Department of Education (P120A070025); and UH-Downtown.

One Main Street, 725-North, Houston TX 77002-1001
Phone: 713-222-5344; Fax: 713-223-5356; scholars@uhd.edu; www.uhd.edu/scholars



11th Annual
Graduate School and Internship Fair
October 15, 2010 9 am – 12 pm Room A300



Welcome to the 2010 Graduate School and Internship Fair!

The UHD Scholars Academy is pleased to feature scholarly undergraduate STEM research poster presentations. Please join us in this scholarly undertaking by visiting each poster, dialoguing with the student presenters about their project, and encouraging them through offering constructive considerations that can benefit them in their next phase of research. Thank you.

Student Research Poster Session:

- 1 – Brandy Bell**, "Thermal Properties of Bis(glycinato)Bis(nitro)Cobalt Salt with Potassium as the Counterion"
UHD Faculty Mentor: **Dr. Janusz Grebowicz**
Project Location: University of Houston-Downtown
- 2 – Marylyn Davila**, "Role Of Muscleblind On Aberrant Splicing In Myotonic Dystrophy Type 2"
Faculty Mentor: **Dr. Ralf Krahe**
Project Location: University of Texas - MD Anderson Cancer Center
- 3 – Elena Espino**, "MRI Analysis of Superficial Femoral Veins in Patients with Peripheral Arterial Disease"
Faculty Mentor: **Dr. Joel D. Morrisett**
Project Location: Baylor College of Medicine
- 4 – A'Tondra Gilstrap**, "Viability of Enteric Bacterial Pathogens in Transport media Systems"
Faculty Mentors: **Drs. Jeticia Sistrunk and Zhi-Dong Jiang**
Project Location: Center for Infectious Diseases at University of Texas School of Public Health
- 5 – Audrey Gonzalez, Gloria Abarca and Sueyen Diosdado**, "Non-metric Multidimensional Scaling Analysis for Bacterial Endophyte Communities in Texas Grapevines"
UHD Faculty Mentor: **Dr. Lisa Morano**
Project Location: University of Houston-Downtown
- 6 – Russell Kendrick**, "Stress Analysis of Bacterial Biofilms"
UHD Faculty Mentors: **Drs. Youn-Sha Chan and Poonam Gulati**
Project Location: University of Houston-Downtown
- 7 – Abir Khan**, "Sprout Tracking of Angiogenesis in the In Vitro Spheroid Assay"
Faculty Mentors: **Drs. Alex Arevalos and Amina Ann Qutub**
Project Location: Rice University
- 8 – Mitesh Koirala**, "Analyzing the Genome of a *Xylella fastidiosa* Grape Strain from Texas"
UHD Faculty Mentor: **Dr. Lisa Morano**
Project Location: University of Houston-Downtown
- 9 – Candice Lange, Rachel Kutach and Toni Shea Neadom**, "Preliminary DNA Fingerprinting of Ragweed Isolates of *Xylella fastidiosa* throughout Texas"
UHD Faculty Mentor: **Dr. Lisa Morano**
Project Location: University of Houston-Downtown
- 10 – Adolfo Lara**, "Exocytosis in Mast Cells"
Faculty Mentor: **Dr. Ruth Heidelberg**
Project Location: University of Texas – Health Science Center at Houston
- 11 – Adetomiwa Oguntuga**, "Ant Foraging Simulation Analyzer"
Faculty Mentor: **Dr. Melanie Moses**
Project Location: University of New Mexico, Albuquerque
- 12 – Elda Rueda**, "Spatial Distribution of Metabolic Enzymes in Adult Mouse Retina; Implications in Vision Preservation"
UHD Faculty Mentor: **Dr. Jerry Johnson**
Project Location: University of Houston-Downtown
- 13 – Kamran Safarli**, "Investigating the Role of General Stress Response Pathway in Genetic Buffering in *S. cerevisiae*"
Faculty Mentors: **Drs. Noorassadat Torabi and Leonid Kruglyak**
Project Location: Princeton University
- 14 – Mayra Sanchez**, "Activation Of Cax3 Relevant To Bioavailability Of Calcium In Plants"
Faculty Mentors: **Drs. Kendal Hirschi** (Children's Nutrition Research Center), **Debra Murray*** and **Richard Gibbs***
Project Location: *Human Genome Sequencing Center, Baylor College of Medicine
- 15 – Israel Sierra**, "Electrochemical Sensing Of Sulfur-Containing Organic Compounds By Electrodes Of Non-Noble Metals"
UHD Faculty Mentor: **Dr. Mian Jiang**
Project Location: University of Houston-Downtown
- 16 – Glenda Thammavongsa, Lassana Samarakoon and Cory Ali**, "Building a Diatom Succession Model for a Mitigated Wetland"
UHD Faculty Mentors: **Drs. Brad Hoge and Ronald Barnes**
Project Location: University of Houston-Downtown
- 17 – Tuan Tran**, "Ionomer Based Composites for Sensor and Battery Application"
UHD Faculty Mentor: **Dr. Mian Jiang**
Project Location: University of Houston-Downtown
- 18 – Karina Vazquez**, "EGF-A as a Potential Therapeutic for Lowering Serum LDL-Cholesterol"
Faculty Mentor: **Dr. Barrett R. Harvey**
Project Location: University of Texas Health Science Center at Houston
- 19 – Rosa Villagomez**, "Expression of Infectious Bursal Disease Virus VP3 for Biophysical Characterization of the VP1-VP3 Complex"
Faculty Mentors: **Drs. Yukimatsu Toh and Yizhi Jane Tao**
Project Location: Rice University
- 20 – Desiree Wilson**, "The Effects of *SPAG16* Mutations and Their Relationship to Male Infertility"
Faculty Mentor: **Dr. Martin M. Matzuk**
Project Location: Baylor College of Medicine

Scholars Academy
Natural Science Tutors



Spring 2011 Schedule

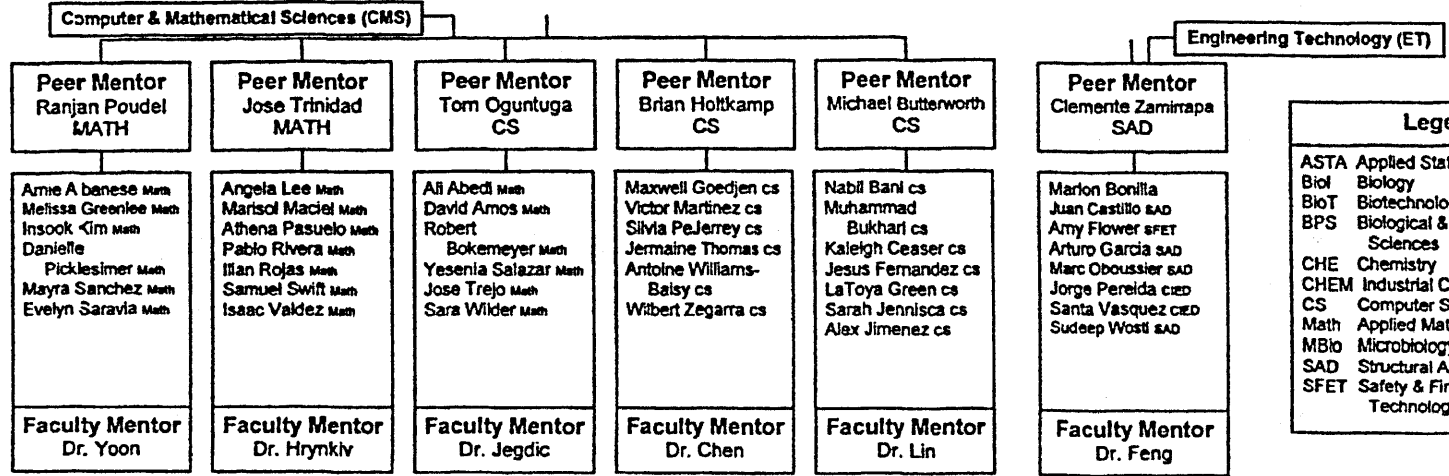
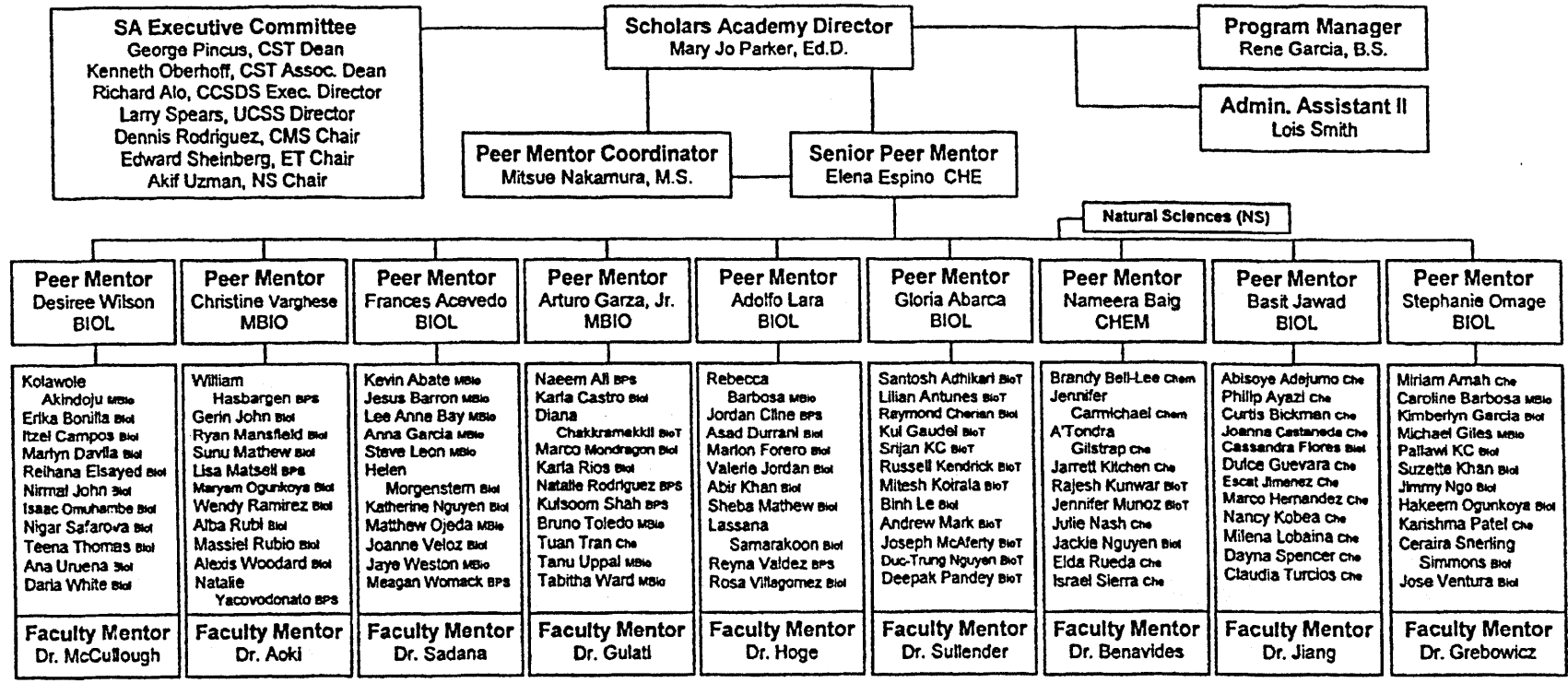
Course (Including related lab)	Tutor	Days and Times
Geology 1405	Lisa Matsell	Wed/Thurs 11:30am-1pm Fridays 10am-12pm
Physics 1307 and 1308	Kevin Abate	Tuesdays 6-8:30pm Thursdays 6-8:30pm
Physics 1307	Andrew Mark	Mon/Wed 1pm-3pm Fridays 3pm-4pm
Physics 1307 and 1308	Jackie Nguyen	Mondays 11:30am-12:30pm Wednesdays 12:30-4:30pm
Chemistry 1305, 1307, 1308	Kevin Abate	Tuesdays 6-8:30pm Thursdays 6-8:30pm
Chemistry 1305, 1307, 1308	Andrew Mark	Mon/Wed 1pm-3pm Fridays 3pm-4pm
Chemistry 1305, 1307, 1308	Elda Rueda	Fridays 12-3pm Saturdays 10am-12pm
Environmental Chem 3320	Elda Rueda	Fridays 12-3pm Saturdays 10am-12pm
Biochemistry I (Chem 4340)	Elda Rueda	Fridays 12-3pm Saturdays 10am-12pm
Biochemistry I (Chem 4340)	Tanu Uppal	Tues 3-6pm & Fri 10am-12pm
Biochemistry I (Chem 4340)	Alex Weston	Mon 2-4pm & Tues 12-3pm
Biochemistry I (Chem 4340)	Desiree Wilson	Mondays 4-9pm
Organic Chemistry I	Andrew Mark	Mon/Wed 1pm-3pm Fridays 3pm-4pm
Organic Chemistry I & II	Tanu Uppal	Tues 3-6pm & Fri 10am-12pm
Organic Chemistry I & II	Alex Weston	Mon 2-4pm & Tues 12-3pm
Biology 1301 and 1302	Lisa Matsell	Wed/Thurs 11:30am-1pm Fridays 10am-12pm
Biology 1301 and 1302	Jackie Nguyen	Mondays 11:30am-12:30pm Wednesdays 12:30-4:30pm
Biology 1301 and 1302	Mathew Ojeda	Thursdays 4-7pm Fridays 2-4pm
Genetics (Biol 3303)	Tanu Uppal	Tues 3-6pm & Fri 10am-12pm
Cellular Biology (Biol 4320)	Elda Rueda	Fridays 12-3pm Saturdays 10am-12pm
Cellular Biology (Biol 4320)	Desiree Wilson	Mondays 4-9pm
Immunology (MBIO 4320)	Mathew Ojeda	Thursdays 4-7pm Fridays 2-4pm
Immunology (MBIO 4320)	Alex Weston	Mon 2-4pm & Tues 12-3pm
Immunology (MBIO 4320)	Desiree Wilson	Mondays 4-9pm
Microbiology 2305	Mathew Ojeda	Thursdays 4-7pm Fridays 2-4pm
Microbiology 2305	Jackie Nguyen	Mondays 11:30am-12:30pm Wednesdays 12:30-4:30pm



Fall 2010 Schedule

Course (including related lab)	Tutor	Days and Times
Geology 1307/1308	Brandy Bell	Mon/Wed 1:15pm-3:45pm
Geology 1405		
Geology 3411		
Physics 1307 and 1308	Victor Martinez	Mondays 11:30am-1pm Thursdays 4-5pm
Physics 1307 and 1308	Jackie Nguyen	Mondays 10-11:15am Wed. 10-11:15am; 1-3:30pm
Physics 1307 and 1308	Desiree Wilson	Mondays 4:30-6:30pm Fridays 10am-1pm
Chemistry 1305	Anabel Fay	Fndays 10am-12:30
Chemistry 1305, 1307, 1308	Dulce Guevara	Mondays 1-3pm Thursdays 7-8pm; Fri 2-4pm
Chemistry 1307, 1308	Alex Weston	Mon/Wed 4-5:15pm Tues/Thurs 1-2pm
Quant. Analysis (Chem 3310)	Elda Rueda	Thursdays 11am-2pm; 7-9pm
Biochemistry I (Chem 4340)	Elda Rueda	Thursdays 11am-2pm; 7-9pm
Biochemistry I (Chem 4340)	Tanu Uppal	Tuesdays 4-7pm Fridays 1-3pm
Biochemistry I (Chem 4340)	Desiree Wilson	Mondays 4:30-6:30pm Fridays 10am-1pm
Organic Chemistry I & II	Tanu Uppal	Tuesdays 4-7pm Fridays 1-3pm
Organic Chemistry I & II	Alex Weston	Mon/Wed 4-5:15pm Tues/Thurs 1-2pm
Biology 1301 and 1302	Audrey Gonzalez	Mondays 1-2pm Tues/Thurs 10-11am
Biology 1301 and 1302	Jackie Nguyen	Mondays 10-11:15am Wed. 10-11:15am; 1-3:30pm
Biology 1301 and 1302	Chrntine Varghese	Tuesdays 10am-1pm Thursdays 10am-12pm
Biology 1302	Alex Weston	Tues/Thurs 1-2pm
Anatomy & Phys. I (Biol 1303)	Anabel Fay	Fndays 10am-12:30
Genetics (Biol 3303)	Audrey Gonzalez	Mon/Weds 10-11am Mondays 1-2pm
Histology (Biol 4310)	Audrey Gonzalez	Mon/Weds 10-11am Mondays 1-2pm
Cellular Biology (Biol 4320)	Elda Rueda	Thursdays 11am-2pm; 7-9pm
Cellular Biology (Biol 4320)	Desiree Wilson	Mondays 4:30-6:30pm Fridays 10am-1pm
Microbiology 2305	Anabel Fay	Fridays 10am-12:30
Microbiology 2305	Christine Varghese	Tuesdays 10am-1pm Thursdays 10am-12pm

Spring 2011 UHD Scholars Academy Roster



Legend	
ASTA	Applied Statistics
BIOL	Biology
BIOT	Biotechnology
BPS	Biological & Physical Sciences
CHE	Chemistry
CHEM	Industrial Chemistry
CS	Computer Science
MATH	Applied Mathematics
MBIO	Microbiology
SAD	Structural Analysis & Design
SFET	Safety & Fire Engineering Technology



APPENDIX 4

Texas State University LSAMP Activities Summary

H-LSAMP Scholars Program – Student Voices

What did you enjoy the most about being a member of the H-LSAMP community?
What parts of our program did you find to be the most valuable in developing your personal, academic, and career goals?

"I really enjoyed being a tutor for the CLC. This allowed me to keep fresh all the material I have learned and apply/teach it to other students in need of tutoring. I believe every single activity the H-LSAMP program underwent this year provided with the developing of my personal, academic, or career goals. Starting from tutoring, to research, to attending seminars, each activity aids in growing as a scholar."

"What I enjoyed most was the computer lab that was available to the students. I also enjoyed the tutors that were available to help the students. The relationships one builds in H-LSAMP are most valuable in developing me personally. The tutors and the workshops, and semester project is definitely what helped me develop academically. The information interview and mentor helped me think most about my career goals."

"I enjoyed meeting all these new people and getting greeted as I walked to class or when came to the CLC lab. It was great getting to know them and I look forward to working with them next semester."



"I really enjoyed the workshops we were both required to attend and the ones we could choose. I honestly dreaded having to attend them but I found them really interesting. And they expanded my knowledge and thought process."

"I really enjoyed the social gatherings organized for the scholars, including the gatherings where a professional speaker was involved. I think the most valuable aspects of H-LSAMP are the informational interview and semester project because of its tendency to produce skills needed in the "real world".

"What I enjoyed the most was the required time for my tutoring session. It prepared me for test in my science classes by giving me more study time. There was nothing that I didn't like about being a member. I think being responsible for completing the requirements all together whether it is internships, attending conferences, volunteering, etc. The entire set up was very helpful to me."

"I enjoyed all the group activities we did like the GOAL course and Bobcat Build. I consider tutoring, information interview, and having your resume updated frequently is very valuable in developing career and personal goals."

"Everyone is very positive and motivated for their futures. It is great to be surrounded by a group of students who are as serious about their college experience as I am. It was beneficial to get feedback from other scholars who are trying to make the same decisions and are having the same experiences as I am. I think all of the assignments are necessary in development because it is unlikely I would have known where to even begin in refining my decisions regarding graduate school. It pushed me to go further and talk to several professors. Even though I did not get to do the other informational interview that I wanted, I feel like I still got good information for personal development. I have been able to interact with people who have established a career in what I would like to eventually have a career in and it has helped tremendously in knowing what is expected to achieve these goals. I was very unsure of what to expect and how to even go about apply for graduate school, but after this semester I have learned so much about the process and even the experiences as a graduate student. I know this is the right direction for me and I am confident that I am making the right decisions and I know what I need to accomplish before graduate school."

"I also felt like my mentor played a big role in what I was doing also because I was able to ask her questions about some of my doubts and plans for the future. And she gave me positive feedback and advice on what I should be doing which is a really great guide for me."

"I enjoyed the most this semester meeting all the students in the program and participating in activities with them. The conference was very valuable to me in my academic and career goals."

"I enjoyed the book club the most. The first discussion was really good; I think it should have been a little longer."

"I think the information interview and the mentor meetings are the most valuable to me."

"I like being in H-LSAMP because some of the other students involved in H-LSAMP are in a lot of the classes that I am in. So it's easy to find someone to work with, help, or get helped in those classes."



"I think the focus on academic and career is what makes H-LSAMP critically important to a science major's career path. Many people do not plan ahead and most of the time they begin career planning after the graduate. This could lead to diminished opportunities and the H-LSAMP program gives you a jump-start into career planning so that you have the best possible chance of being successful."

"The requirements make sure that you are on point in achieving the success you want and the network that you create with students in the STEM fields."

"I liked having a new group of friends, since I live off campus it was nice to have a group of people that I saw regularly. And I also liked that there were so many people I could learn from in the group."

"One of the most valuable parts for me was going to the medical conference because it exposed me to what I have to prepare for. And I also liked the book club because the book helped me look farther into the future where it comes to my career."

"So I felt like being in the program has pushed me to do things that I would otherwise be unaware of and it helped me to become a little braver and step outside of my comfort zone to explore opportunities. I thought being in the H-LSAMP program was a great start to preparing for my future."

"I think the most valuable activity for me was the research project with tutoring being a close second. I really enjoy working with others and building my skill set and this was a great opportunity to do just that."

"I enjoyed the book club the most. I think that my interactions with Susan about life, academics, and career goals were most valuable to me this semester. I noticed the difference of her not being here when I started last semester."

"This semester, the activities that I enjoyed the most were the GOALS ropes course that we attended as a group in the beginning of the semester, as well as the informational interview. The ropes course enabled us to feel more connected as a group. Usually throughout the semester, the scholars of the H-LSAMP program may not get much interaction with each other creating a feeling of distance between the scholars. However, following the challenge course that we all participated in created a sense of community amongst the group."

"I loved how we had more scholars. It gave me the chance to meet other people who were on the same track as me. Plus everyone here is trying to be successful and is very encouraging with everyone. I enjoyed most being able to be in the CLC lab whether I was being tutored or studying. It was a good environment to be in."

"I always enjoy the responsibilities we have dealing with research and tutoring, and the meeting with mentors. I was just unsatisfied with my time management for everything this semester, I had a huge overload this semester and there were a lot of workshops and volunteering and mandatory events that deducted time from my research and or classes."

"I most enjoyed the research. Not meeting every week took a little getting used to since regular meeting was always really good for accountability in keeping up with the requirements. The most valuable to my goals would be the requirement for research and the informational interview."

"I really enjoyed being a member of the H-LSAMP community. Since I have been a member it has really increased my chances of becoming a better person and student. Today I can say that I use the resources that I have the University at their full potential thanks to the H-LSAMP program. H-LSAMP has developed my communication skills by forming groups of people with new members every time having to interact with each other, it has increased my academic performance and it keeps me fresh with classes I have taken since over 2 years ago. It has improved my career goals by encouraging me to apply to summer programs, and I have been accepted to one. Without the H-LSAMP program, I would have probably never achieved this."





Senior Alliance Goals – Texas State objectives

Goal 1: increase UREP minority graduation rate

- Continue to improve and refine elements of academic success offered through our program and the Collaborative Learning Center
- Explore partnership opportunities with new PACE Academic Center. The PACE Center is a new initiative at Texas State designed to enable freshmen to focus their academic and career goals by assessing their interests and abilities, exploring the future of the work world, and choosing appropriate pathways and opportunities. PACE will serve as a one-stop location for personalized freshman advising, career planning and mentoring.
- Establish formal recruiting/mentoring partnerships with SMHS AVID (Advancement via Individual Determination) program, Rural Talent Search, and TRIO Student Support Services
- Science through education – continue our involvement with MAES Science Extravaganza, Ingram Engineering Day
- Explore new partnerships with College of Education re: increasing the number of students certified to teach science and math
- Writing in the disciplines – continue established program of resume and personal statement writing in partnership with The Writing Center, Career Services, and H-LSAMP Program Director (Susan Romanella, M.A. Technical Communication)

Goal 2: increase transfer rate of level one scholars up to 75%

- ACC and Alamo Community College System are main feeders to TX State with articulation agreements in place

Goal 3: increase level one research participation to greater than 90%

- continue to identify opportunities for scholars to participate in undergraduate research, apply for summer REUs, provide supplemental funds for students doing summer research

Goal 4: internationalization of STEM

- work with Office of International Studies to identify study abroad opportunities for STEM majors



Research Experiences for Undergraduates (REU)

Department of Computer Science
Texas State University-San Marcos
June 1– August 2, 2011



New Paradigms of Information Retrieval from Diverse Data

<http://www.cs.txstate.edu/reuir>

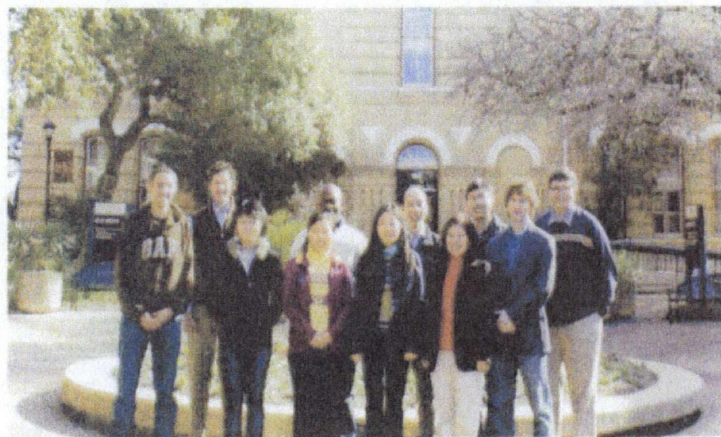
Why REU?

The primary objective of this REU program is to motivate a diverse body of undergraduate students to pursue research careers via intensive summer research projects in information retrieval with a focus on diverse data. The world is becoming increasingly digitalized. Digital data appear in diverse forms: textual, multimedia, geo-referenced, structured, etc. Retrieving information from such diverse data of large scale pose unprecedented challenges. New paradigms need to be explored and next-generation computer scientists need to be prepared with advances in this field.

This REU program covers the main research projects within the iDig (Information and Data Innovation Group) research group at Texas State University. The core aspects covered in this 9-week summer program include new paradigms and architectures for information retrieval and Web search, multimedia information retrieval, spatial and temporal data retrieval, and discovery of scientific data sources. The students will spend nine weeks in the summer on site working in groups of two with supervising faculty member on a practical research project. Students will be assigned to an on-campus dormitory for inclusion in a supportive campus community. Students will be closely mentored on research processes, research ethics, advanced technology development and both written and oral presentation skills. They will also participate in practical professional development activities such as workshops for graduate school application and field trips to industrial laboratories. The program will also include a fun social event at the crystal-clear San Marcos River.

Mentors and Topics:

Dr. Byron J. Gao	Information Retrieval and Data Mining
Dr. Lucy Lu	Multimedia Information Retrieval
Dr. Mark Mckenney	Spatial and Temporal Data Retrieval
Dr. Anne H.H. Ngu	Deep Web Source Discovery and Integration



Important Dates

Application due	March 25, 2011
Decision notification	April 8, 2011
Formal Acceptance letter	April 15, 2011
Program begins	June 1, 2011
Program ends	August 2, 2011

Who can apply?

- ▶ Applicant must be a US Citizen or US Permanent Resident
- ▶ Applicant should have at least completed data structures and computer algorithms classes or their equivalence
- ▶ Applicant should have good programming knowledge in an object-oriented language
- ▶ Women, minorities and two-year college students are encouraged to apply

Benefits

- ▶ Stipend: \$500 per week
- ▶ Travel re-imbusement of up to \$600
- ▶ Free on-campus housing and meal

How to apply?

Review of applications will begin on March 25, 2011 and continue until all ten positions are filled. Application must be electronically submitted via reuir@txstate.edu with the following supporting documents.

1. Completed application form. Download the application form from the program website. Students should indicate the order of preference of the four main research topics.
2. An electronic copy of the most recent official transcript, including the courses registered for Spring 2011. A scanned copy of an official transcript is sufficient.
3. One letter of recommendation from a faculty member who can assess your ability to do research.
4. A one-page resume.
5. A one-page description of career goals including reasons for wanting to do research and participate in this REU program.

Contact:

Dr. Anne H.H. Ngu
Email: reuir@txstate.edu
Phone: (512) 245-3409
Fax: (512) 245-8750
Department of Computer Science
Texas State University-San Marcos
601 University Drive ,
San Marcos, TX 78666



For more information, please visit the program website
<http://www.cs.txstate.edu/reuir>
which will be updated as additional information becomes available



Degree Production Goal*



Existing efforts – all STEM major recruiting

- 30 Level one (funded) students in program
- Bobcat Days @ Texas State University
- Internal recruiting (STEM faculty referrals, scholar recruiting)
- San Marcos CISD AVID Program, Early College Start
- Seguin High School – Texas State University Rural Talent Search
- H-LSAMP web presence, Facebook, alumni search




*H-LSAMP Senior Alliance Goal #1:
Increase total UREP STEM degree count per year from 949 to 1289

Degree Production Goal*



Existing efforts – engineering major recruiting

- Area high school campus visit days to Ingram School of Engineering
- University Seminar for first year students – engineering, engineering technology students only

Restricted Section Instructors:   

Susan M. Romanella, M.A., Director, H-LSAMP Scholars Program

Michael Casey, PhD, Senior Lecturer, Ingram School of Engineering

*H-LSAMP Senior Alliance total #1

increase total UREP STEM degree count per year from 949 to 1289

Degree Production Goal*



Existing efforts – all STEM major retention

- Collaborative Learning Center – walk-in STEM peer tutoring, new Dell & Mac PCs, extensive array of STEM programs
 - AutoCAD 2010
 - AutoCAD Mechanical 2010
 - Inventor
 - Revit Architecture
 - DWG TrueView 2010
 - Autodesk Design Review 2010
 - National Construction Estimator 2010
 - MATLAB
 - LABVIEW
 - SIMIO
 - Mathematica
 - SPSS Statistics 2010
- H-LSAMP scholars STEM teaching – SI, IA, TA

*H-LSAMP Senior Alliance Goal #1.

Increase total UREP STEM degree count per year from 949 to 1289

Degree Production Goal*



Planned efforts

- HSI status, regional demographics
- Alamo Regional Science Bowl – offering scholarship to winners if they attend Texas State
- KIPP San Antonio
- San Antonio NEISD
- Texas State University - veteran student enrollment - (minority STEM majors, approx. 30 per year)
- University Seminar – science majors dedicated sections
- PACE Center at Texas State (2012)

*H-LSAMP Senior Alliance Goal #1

Increase total UREP STEM degree count per year from 949 to 1289



APPENDIX 5

San Jacinto College LSAMP Activities Summary

Houston Louis Stokes Alliance for Minority Participation
San Jacinto College
Feb. 10, 2011

The 2009 – 2010 first year of this portion of the SJC H-LSAMP program had a total of 42 participants. This large number of participants was possible because of SJC roll-over funds from the previous phase of the H-LSAMP grant as well as additional redistributed funds from UH to fund additional students. The succeeding years will have fewer. To that end, we funded only 14 students in fall, 2010 and anticipate funding that same number this spring, 2011 semester. We have reduced the stipend to \$700 per participant to be able to fund additional students. San Jacinto College continues to provide support of this program through scholarship funding in the amount of \$30,000 per year as well as providing course releases for the campus coordinators and SJC PI.

Updates for the program include a new campus coordinator for Central Campus, Mr. Chris Wild beginning spring, 2011. He is a new faculty member in the department of chemistry. He joins Mr. Bennie Jenkins, chemistry, from North Campus and Dr. Joyce Miller, chemistry, from South Campus as the campus coordinators. They are the contacts for their campuses and really maintain a close connection with their students. Having Mr. Wild as part of the program will allow SJC Central Campus to reach more students. Mr. Wild will also serve as the writing coach for the participants' essays. Between Mr. Wild and the campus writing centers, the students should produce some very nice essays that will be useful for transfer applications as well as internship applications.

In the summer, 2010 SJC had 9 LSAMP students participate in internships. Sergio Ortuno worked at Arkansas State University under Drs. Earl and Ellis Benjamin. Zachary Cavanaugh worked at the University of Houston under Dr. Zimmerman. Joshua Guillory participated in a three week research program in May at Texas A&M University Kingsville. San Jacinto College hosted 6 SJC student interns in the area of robotics – Melissa de la Fuente, Eliazar Nava, Ryan Williams, Adam Lyons, Antonio Cantu, and Kevin Vasquez. In addition, there were 3 previous SJC LSAMP students who have already transferred to the University of Houston that were involved with internships in summer 2010. This component of the SJC H-LSAMP program is growing and extending to students outside the LSAMP program. Because of discussions the LSAMP students had in their math and science classes, we had several other students apply for internships and 2 were accepted, one at Rice University and one at JSC NASA. It is anticipated the number of SJC students participating in internships will continue to grow.

The SJC LSAMP program is successful. This week I heard from one of the LSAMP students who transferred to University of Texas in fall 2009. He had done an internship with Rice while he was at San Jacinto College. He came very close to transferring to University of Houston that fall semester. Because of his field of study, aeronautical engineering, he decided to go to UT instead. He stayed one extra year at SJC and participated in the robot internship in summer 2009. I heard from him this week. He is in a co-op program at JSC NASA this spring semester. He reiterated to me, how being in the LSAMP program really prepared him to be successful when he transferred. He learned how to study and how to reach out to mentors for help. He credits the internship participation for helping shape his decision and goals.

He remains in touch with many of the other LSAMP students who were in the program with him. This story is one of many that I hear from students who contact me after transferring. They have some challenges but because of the base of support from SJC and the friends they made while here, they continue to have a base of support when they transfer. The unique web that is created across the SJC district among the STEM/LSAMP students is strong and healthy!

University of Houston is working on improving the transfer process for our students. That is excellent because it is a stumbling block for our students who want to transfer there. We had 8 LSAMP students transfer to University of Houston main campus, 1 transferred to University of Houston downtown, one transferred out of state, 6 returned to San Jacinto for more coursework and 3 of the students we are unable to track. What we know is that we need to provide a better transition process into all universities for all our students. In addition to improving the transfer process, we want to create more opportunities that parallel those available at a university for our students – possibly in conjunction with the partner universities or created specifically for our students. This would include seminars, speakers, research possibilities, conference participation, etc. We are growing into a new perception for our STEM majors – one that will parallel the university perception.

Jesus Arredondo
March 30, 2010


Goals

Goals come in different shapes and sizes and are different to every human being. A little kids goal might be to become a superhero and a soccer players to win the world cup. The goals we set for ourselves define us for who we are and mine are no exception.

I have many short term goals but there is one that is way over the rest. Which is simply to do well every day in all my classes and get my engineering degree. This is easier said than done. I am a person that is passionate about everything I do but sometimes this passion takes breaks. Sometimes school work becomes so stressful that it becomes tedious and that is when it seems like this is not worth it. I forget that I enjoy what I am trying to achieve. This goal is the most important to me because it would prove to myself that I can do what ever I put my self to. I would also consider this a great achievement since I could become the first in my whole family to get a four year degree.

In the long term I just have one very important goal that I would like to accomplish. I want to one day look back at my life and not regret not being the best I could have been. I have high standard for myself because I know I can be successful at anything I do and I don't want to regret never trying something I wanted to achieve. Even if I tried to accomplish something and didn't achieve it at least I would know I gave it my best shot.

Goals are the things that when we wake up keep us going. Without them there is no point to life. My goals are at least what keep me going and hopefully I can achieve



them all. Like one very wise man named Abraham Lincoln once said "The best thing about the future is that it comes one day at a time". Which gives me enough time to reach my goals.

March 31, 2010

My Short Term and Long Term Goals

A goal can be described as a desire or intention so deep that it activates a need of action to achieve the objective. There are many things that I desire to achieve, however destiny can sometimes complicate things and now I have been forced to reorganize and prioritize both my short term and long term goals. No matter what my overall life goals are and regardless of any life events, education has managed to stay at the top of my priorities. My number one goal is to finish my undergraduate studies as soon as possible; this will definitely bring peace of mind to my life and will bring me one step closer to my long time objectives. All my education goals focus on completing my chemical engineering degree and then pursuing graduate studies in the chemistry area.

My short term goals are to continue my education and to keep cultivating stability and harmony in my personal life. For the moment, I intent to work hard to obtain good grades in the classes I'm currently taking, which have been quite challenging (in a good way). Also, I'm currently applying for the University of Houston, and I am working to overcome some challenges I've been faced with regarding my transfer. I won't be able to attend school during the summer since I'm going to be having a baby, but I have pace that this event is not going to be a setback for my education. This new life changing event has brought nothing but inspiration and motivation to achieve my degree as soon as possible. I intent to attend full time at UH during the fall semester and all semesters after that.

The experience of becoming a mother has brought many wonderful things to my life. It has brought a new and exciting purpose to all my goals and has motivated me greatly to fulfill each one of them, education being the main one. I intent to finish my undergraduate studies within the next two years, and I'm certain this can be attainable given that I'm lucky to count with the support of those around me.

My long time goals have not changed as a result of the latest events in my life. To the contrary, I now more than ever want to pursue graduate school after completing my chemical engineering degree. I would really like to do my graduate studies at the University of Houston. Thanks to the AGEP program I had the great opportunity to work at Dr. Advincula's laboratory and under his supervision during the 2009 summer. This was an amazing experience from which I learned immensely. I was slightly exposed to the environment under which graduate students work, and had the opportunity of working side by side with one of them. This enriching experience reinforced my long time objective of pursuing graduate school.

Kelly P. Davila

Regardless of any life changing events, I have learned to prioritize the objectives that will have a great impact on my life, education being the main one. I have as main purpose to fulfill my education goals. Education is by far my main short and long term goal, since this will have a great impact in my life and in the one of those around me.

Melissa De la Fuente
832-528-3902
1521 Watson Dr.
Deer Park, TX

The goals I hope to accomplish within the next three years of school and into my professional career are to network myself effectively, gain exposure to different disciplines of engineering and emerging topics in science, math, and technology, and prepare myself in a way that will allow me to obtain a position in a company that I aspire to work for.

I believe meeting new people with similar goals and interests is a vital step towards insuring that I'm making the right choice for myself as well as paving a way towards my future goals with the help and advice of mentors or alumni that are involved in similar programs or projects. I'm majoring in mechanical engineering and after speaking to my mentor and several professors here at San Jacinto College I have a very clear understanding of what my degree requires and I want to expand my knowledge base of the sorts of experience I will need to obtain a job in my field of study. I also want to look into other disciplines within the realm of engineering as I feel this kind of exposure will strengthen my understanding of what each profession entails and make me a more well rounded student and employee in the future.

To stay on top of recent and emerging topics and advances in science and technology, I'm applying to several research positions and internships in the summer time. Doing this will keep me up to date on the trends and directions being made in science and will help me immensely when I join the workforce. I also expect that doing research in different fields will help me focus my efforts towards something I will enjoy

doing after graduating. In fact, my ultimate goal is to work for a team of engineers pioneering new technology or bettering existing technologies.

LSAMP Scholarship Essay

By

Joshua Guillory

I first became interested in computer programming in high school when I realized that my mathematical skills could be applied towards innovation. This really motivated me to learn and explore more into the field, but I knew that upon further exploration, my motivation would be challenged with adversity of being a minority in non-socially accept field. However, thanks to the foundation that my parents set and the education I received from San Jacinto Community College, I have made all the necessary preparations for taking on new challenges or research opportunities in my career as an engineering student. That being said, the research interests that I find most fascinating are programming or software design, graphic design and computer simulation. I believe that if I were to work in those designated fields I can discover more efficient ways of producing and constructing various necessities such as energy, agriculture, and technology.

My parents were baby boomers born in Louisiana, but moved to Texas earlier in their lives before they'd married. The highest level of education of my father obtained was his high school diploma and my mother has her Associate's Degree in 2005 from San Jacinto College. My parents worked hard to provide for me and my siblings. It was their dedication and diligence that prepared me mentally to become successful at anything I put my mind to. Before I attended San Jacinto, I graduated at one of the top engineering high schools in Houston. It was there I was introduced to programs such as C++, Java, and AutoCAD. Even still, my skills didn't begin to manifest themselves until I attended San Jacinto College where professors helped critique and enhance both my math and science skills. Not only did professors invested time in my education, but of course I invested time in my education as well by working full time to pay for school and buying extra books to study my career more exclusively while at home. Therefore the time and effort I put in myself will most definitely be beneficial to my career as engineer in any research project.

In conclusion, I am eager to move forward and seek new opportunities to learn, grow and become successful in my career as a professional computer science engineer.

LSAMP Scholar

Samuel Henderson

Date: 30-Mar-10

My Goals and Engineering

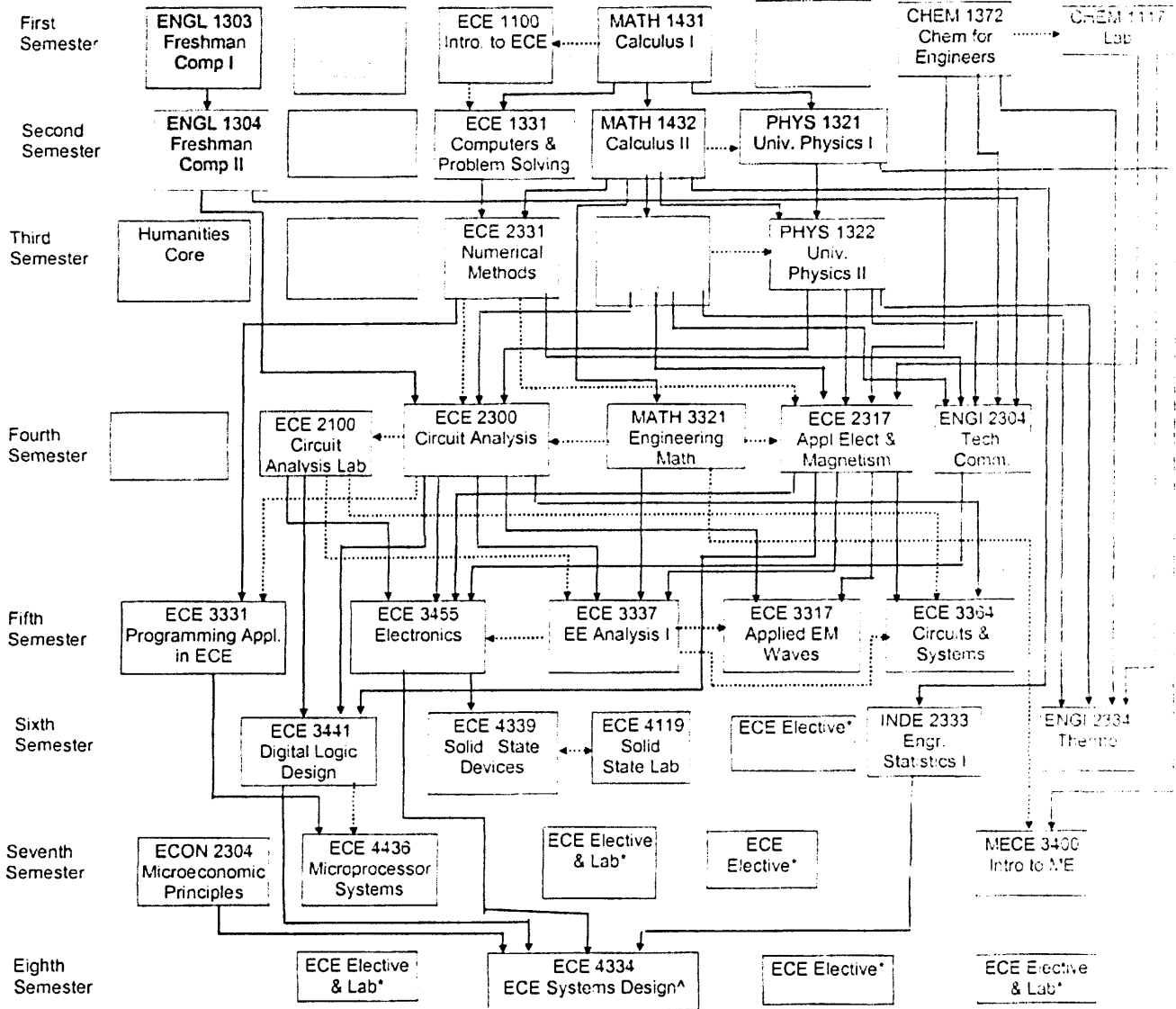
Science and engineering has fascinated me from a very young age and continues to dominate my interest. As new and creative inventions evolves the urge for being a part of the discovery increases. The demand for new technology continues to increase while the human resources required to respond to those demands are steadily decreasing. Technology depends on engineering and would cease to exist without further growth in new scientific developments through research and engineering. If engineering fails to explore new areas in which concepts and ideas can be developed into solutions, the modernized world as we know it will soon be traditionalized. For this reason my childhood fascination in engineering has become my future goal. My goal is to obtain a masters degree in telecommunication engineering.

To achieve my goals there are necessary requirements which must be satisfied. Mathematics and natural science are the key subjects of studies which supports the success of my goals. At this stage into my journey I have chosen to pursue an A.S in mathematics which will equip me with the needed mathematical background required for engineering. In the last two semesters I have embarked on tasking myself with a combination of science and mathematics courses, (Chemistry I & II, Physics I & II, Calculus I & II). These courses have tested my ability to handle the enormous pressure expected from an undergraduate level program through to graduate level.

According to the planned schedule which I have formulated to accomplish my goals, I am right on course. By the ending of fall 2010 semester I am expecting to have acquired fifty one transferable credit hours. At the end of fall semester 2011, I plan to graduate from San Jacinto College with an A.S in mathematics. However my plan continues into the Electrical Engineering B.S program at the University of Houston in the Fall of 2011. The actual task and progress into achieving my goals are highlighted in the following diagram.

B.S. ELECTRICAL ENGINEERING - EE OPTION CURRICULUM FLOWCHART (2014-2015)

College Level Prerequisites: Completed



LEGEND

- Prerequisite
- Credit for or Registration in
- Corequisite
- Completed
- In progress

Johnny Moya - Goals

For a piece of my collegial career I wanted to play piano and use my passion for music to entertain. As I grew into my life, I realized that my true passions were making people happy and problem solving.

Research in Physics and other related fields. Plain and simple, Physics has always interested me, and I feel that not only would I be able to help our society in various areas, but problem solving in such a position would make me happy. I created a list of various issues that affect our society, and want to at least think about them with my current knowledge in Physics. Topics that I do not know as well only interest me more, to learn to think outside of the box, and learn on my own. The key to my "self-educated" resolve is learning beyond what I am taught. Having a good mentor influences me to learn on my own, but also to take the experiences and wisdom of my instructors as the handbook to my collegial career.

Energy, efficiency, and space exploration. The three main topics that interest me and have the most influence on what I study, all three tend to come up in my mind's eye when I study an interesting subject. Because Physics is considered an interdisciplinary study, it feels as though I have to be well rounded in order to know enough to truly make an impact in the world. Everyone has their passion. Mine is learning for learning sake. I want to understand a problem through and through, make a difference, and repeat the process.

I am blessed to have such good instructors as friends, each with their own unique view on what I should do. I cherish their wisdom and insight. The time will come when I take everything I have learned and apply it to the real world. Research is one main experience I feel

I need in order to complete my collegial career. The next step will be to rise to the top of a Ph D in Physics and perform research on the leading problems in our society.

My name is Eliazar Nava, I graduated from Pasadena High School and currently attending San Jacinto College. Since I graduated from High School I have made new goals for myself. My initial goal is to transfer to a University to finish my education, but for that I must apply myself in my current classes to obtain good grades in order to transfer. Once I transfer to a university I want to obtain the skills to become a chemical engineer. These would then project me to my personal goal to obtain a career where I can provide for my family and give back to those who have helped me.

Currently I intent to finish my Associate of arts then transfer to a University. I have already visited and researched information on Universities in order to decide where I will transfer and continue my education to become a chemical engineer. My studies have been taken seriously as I know that chemical engineering is a very competitive field. I know that it requires more than just a diploma to be an engineer and for this I plan to get into an internship or research program in order to obtain as much experience or knowledge as I can regarding to engineering.

If I procure to become a chemical engineering I plan to live and work in Houston where there is chemical plants and a great variety of companies that need engineers. If by any case I am needed to travel, as I know in some cases work calls in different locations especially if it involves working for a large company, I will do so. I feel that by that time I will be ready, as I already know Spanish and currently taking French as a foreign language. Knowing English, Spanish, and French can become very beneficial in communicating in case that I would travel out of the country for a work related project.

The day I finish and enter to work in my career I can make my parents even more proud and show that their support has given me a great opportunity to reach my goals. I have learned that getting pointers and advice from others is very helpful. For this maybe one day I can become the speaker who attends engineering day at a school and answer questions to students who are beginning their journey to their future. Motivation to a starting student can be very helpful as well as comforting and can guide the student into a straight path to accomplish their goals.

As days continue after I started college I still persists through until the next goal is reached. For in the future ahead of me I will become a university graduate pressing to commence my life as an independent adult. To this present day I am merely a student but I hope that in the future I can be a successful person who can recall to the past efforts and be satisfied with the result of the hard work.

Everardo Ortiz

April 3, 2010

LSAMP Essay

My name is Everardo Ortiz and I am currently attending San Jacinto South campus. I have been enrolled at San Jacinto College for two years and this is my second semester in the LSAMP program. My first semester under the program went well. I made the Dean's Honor List. It was a goal I had set for myself at the beginning of the semester and I was proud of myself for the accomplishment. While at San Jacinto College, I have many short term goals and, as I am always looking toward the future, many long term goals. I plan on transferring to the University of Houston to get a Bachelors degree in Engineering. I do not know which engineering field I want to pursue, but I have narrowed my choices down to mechanical, aerospace, and petroleum engineering. Only time will show which field is my true passion and that is the one I will pursue.

I have many short term goals I want to accomplish while I am at San Jacinto College. My main goal is to get excellent grades in school. I am aiming to make the Dean's Honor List every semester. I made the list last semester so I know it is possible. Making the list takes a lot of hard work and determination, but, in the end, the recognition is worth it. Employers look for smart students, so I want to stand out over the rest. I also plan on getting a job related to the field I am entering. I currently work at a place not related to my field of study. I know that a job in my field of study will bring me better opportunities for the future. Another goal is to remain as a LSAMP scholar. Every year it gets more difficult to get accepted into the program. That is why being in the program makes me proud.

Many of my long term goals are more reachable if I accomplish the short term goals that I have set for myself. My main goal in life is to be successful, just like anybody else, and have a job that I love. If the path that I am taking leads me to a successful life, I know all the hard work in school was worth my time. Another goal is to graduate from the University of Houston and become an engineer. Engineering has always been my passion, so finally becoming an engineer would be the high point in my life. When I am finally done with school and well into my career, then I want to have a family of my own to share the happiness with. Being successful is not important if you do not have the people you love to share it with.

These are a few of my main short term and long term goals that I want to achieve. It is going to take a lot of hard work and time, but in the end all the time and money will be well spent. As long as I keep going in the right direction; the life I desire will present itself in the near future.

LSAMP Essay

Though I have never conducted any research I do believe I would make an excellent researcher. I have had the privilege of being employed in three highly technical jobs. I was first employed with the US Navy where I was a Sonar Technician onboard Submarines; there I learned everything about the physics of sound and also how a nuclear power plant operates. My line of work while in the US Navy was highly specialized in the sense that we used extremely unique equipment. I was later hired by DP Electronics where I continued to use my knowledge of electronics/electrical skills from the Navy to work as a technician for Uninterrupted Power Supplies. I then was employed by Lyondell Chemical Company as a Process Technician (Operator). Having had jobs in my past with a high degree of discipline and technicality I believe I can offer additional safety back-up to the team, a fresh set of eyes to view problems with, a wide and vast range of knowledge from previous work experiences, and dedication.

My ultimate goal is to finish up with my BS in Chemical Engineering and then shortly after to attend graduate school and receive a MS in Nuclear Engineering. I hope that by applying and being accepted to this internship, I will have a better opportunity to be able to transfer to a more prestigious university (Perhaps even Rice). I plan to get the best education and training possible to ensure that as a Nuclear Engineer I will be the safest I can be. The lessons I learn throughout this experience I would use to carry out similar research for my future years as a Nuclear Engineer. I would like to use the knowledge I learn about nanotechnology to perhaps in the future apply it towards the nuclear field. I plan on listening closely to what my mentors have to say as well as picking up outstanding habits that they may have in the laboratory.

Ryan Williams - Goals

I am a sophomore majoring in engineering at San Jacinto Community College and am going to transfer to the University of Houston in the fall for mechanical engineering with an associates of science in engineering from San Jac. I am extremely interested in the field of aerospace engineering, but have chosen to pursue a bachelors' in mechanical engineering first. I've been told that aerospace engineers are often required to be multi-disciplined so I may take courses in either electrical or computer engineering as well. I am the first person to go to college in my family and hope to set a good example for my two younger sisters.

Prior to being a full time student I have had three years of experience as a fire protection system designer in the Houston area. But over the past year I have decided to pursue my educational goals full time and was offered a position as a supplemental instructor for Calculus and University Physics. This opportunity has allowed me to work some while still taking full course loads. I really enjoy helping other students excel in science and math, and in my previous position in construction industry I was responsible for training designers on computer aided drafting systems and I found that really gratifying as well.

My long term goal is to pursue an advanced degree in aerospace engineering and a career in the same field. I realize that in order to accomplish my goals I will have to remain focused and dedicate myself to my studies full time. At this point I intend on immediately applying to graduate school after acquiring a bachelors degree. In the little experience I have had in construction I have grown to love problem solving and watching things be constructed. After every system I've drawn, and after every installation I've

always felt a great sense of accomplishment. Knowing that I am capable of designing something to meet some specific need is what motivates me. And as my education level progresses I will be capable of designing even more technical things, able to satisfy even bigger demands. Hopefully, these future demands will be in the aerospace and flight industries.

**APPENDIX 6
EVALUATOR BIOS**

Martin V. Bonsangue has taught mathematics at the middle school, high school, community college, and university levels. While at Cal State Fullerton he has helped develop the mathematics program to support mathematics education for elementary and secondary teachers, having been the lead author on several new courses as well as a masters program designed specifically for middle school teachers. Dr. Bonsangue has served as PI or co-PI for more than eight million dollars in externally funded teaching-related grants, including project MT2 funded by the National Science Foundation. Dr. Bonsangue has published more than fifty articles in mathematics education and is an active speaker at local and national conferences and active in professional development and program evaluation. In May 2011 Dr. Bonsangue received the Outstanding Professor Award at Cal State Fullerton.

Mbonsangue@fullerton.edu

David E. Drew holds the Platt Chair at the Claremont Graduate University. A professor of Education, he also has faculty appointments in management and mathematics. He recently completed a ten year term as dean of Education. Previously, he held research appointments at the Rand Corporation, the National Research Council, the American Council on Education, and at Harvard University. He received his bachelor's degree from Syracuse University, and his master's and PhD degrees from Harvard. He has conducted evaluations of many science reform projects and of national NSF programs, including the Experimental Program to Stimulate Competitive Research (EPSCoR), University Science Development (funded at more than a billion dollars, in 2009 dollars), and the College Science Improvement Program. He has served on the advisory committee on evaluation for the human resources division of NSF.

David.drew@cgu.edu

Sunday	Feb 6, 2011					
Monday	Feb 7, 2011		STEP	TSU	X	X
Tuesday	Feb 8, 2011		STEP	TSU	X	X
Wednesday		8:00 AM- 1:00 PM	LSAMP	TSU	X	X
		1:00 PM - 1:30 PM	Travel Time	Local	X	
		1:00 PM - 1:30 PM	Travel Time	Local		X
	Feb 9, 2011	1:30 PM - 4:00 PM		HCC	X	
		1:30 PM - 4:30 PM		UHD		X
		4:00 PM - 4:30 PM	Travel Time	Local	X	
		4:30 PM - 5:00 PM	Travel Time	Local	X	X
		5:00 PM - 6:00 PM	Free Time		X	X
		6:00 PM - 8:00 PM	Dinner		X	X
Thursday	Feb 10, 2011	8:30 AM - 9:00 AM	Travel Time	Local		X
		9:00 AM - 9:45 AM	SEP Staff	SEP Building	X	
		9:00 AM - 11:00 AM	San Jac Meetings	TBD		X
		9:45 AM - 10:15 AM	SEP Staff	SEP Building	X	
		10:15 AM - 11:30 AM	SEP Students	SEP Building	X	
		11:00 AM - 11:30 AM	Travel Time	Local		X
		11:30 AM - 1:00 PM	Lunch with BD Students	SR1 Rm 220 Conf Room	X	X
		1:00 PM - 2:00 PM	SEP Students	SR1 Rm 220 Conf Room	X	X
		2:00 PM - 2:30 PM	Meeting with Dean Smith	SR1 RM 220	X	X
		2:30 PM - 4:00 PM	TBN		X	X
		3:30 PM - 4:00 PM	Meeting with Craig	SR 1 Rm 220	X	X
		4:00 PM-	Travel to TxState			
Friday	Feb 11, 2011	8:00 AM - 5:00 PM	Texas State			